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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

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III

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A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

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PSYCHOLOGY AND PHILOSOPHY.

I.—EDUCATION AS A SCIENCE.

THE scientific treatment of any art consists partly in applying the principles furnished by the several sciences involved, as chemical laws to agriculture; and partly in enforcing, throughout the discussion, the utmost precision and rigour in the statement, deduction and proof of the various maxims or rules that make up the art.

Both fecundity in the thoughts and clearness in the directions should attest the worth of the scientific method.

DEFINITIONS OF THE SCOPE OF EDUCATION.

First, let me quote the definition embodied in the ideal of the founders of the Prussian National System. It is given shortly as "the harmonious and equable evolution of the human powers"; at more length, in the words of Stein, "by a method based on the nature of the mind, every power of the soul to be unfolded, every crude principle of life stirred up and nourished, all one-sided culture avoided, and the impulses on which the strength and worth of men rest, carefully attended to". (Donaldson's *Lectures on Education*, p. 38.) This definition, which is pointed against narrowness generally, may have had special reference to the many omissions in the schooling of the foregone times: the leaving out of such things as bodily or muscular training; training in the senses or observation; training in art or refine-

ment. It farther insinuates that hitherto the professed teacher may not have done much even for the intellect, for the higher moral training, nor for the training with a view to happiness or enjoyment.

Acting on this ideal, not only would the educator put more pressure altogether on the susceptibilities of his pupils: he would also avoid over-doing any one branch; he would consider *proportion* in the things to be taught. To be all language, all observation, all abstract science, all fine art, all bodily expertness, all lofty sentiment, all theology,—would not be accepted as a proper outcome of any trainer's work.

The Prussian definition, good so far, does not readily accommodate itself to such circumstances as these:—namely, the superior aptitude of individuals for some things rather than for others; the advantage to society of pre-eminent fitness for special functions, although gained by a one-sided development; the difficulty of reconciling the 'whole man' with himself; the limited means of the educator, which imposes the necessity of selection according to relative importance.

Although by no means easy, it is yet possible to make allowance for these various considerations, under the theory of harmonious development; but after the operation is accomplished, the doubt will arise whether much is gained by using that theory as the defining fact of education.

In the very remarkable article on Education contributed by James Mill to the *Encyclopædia Britannica*, the end of Education is stated to be "to render the individual, as much as possible, an instrument of happiness, first to himself, and next to other beings." This, however, should be given as an amended answer to the first question of the Westminster Catechism—"What is the chief end of man?" The utmost that we could expect of the educator, who is not everybody, is to contribute his part to the promotion of human happiness in the order stated. No doubt the definition goes more completely to the root of the matter than the German formula. It does not trouble itself with the harmony, the many-sidedness, the wholeness, of the individual development; it would admit these just as might be requisite for securing the final end.

James Mill is not singular in his over-grasping view of the subject. The most usual sub-division of Education is into Physical, Intellectual, Moral, Religious, Technical. Now when we enquire into the meaning of Physical Education, we find it to mean the rearing of a healthy human being, by all the arts and devices of nursing, feeding, clothing and general regimen. Mill includes this subject in his article, and Mr. Herbert Spencer devotes a very interesting chapter to it

in his work on Education. It seems to me, however, that this department may be kept quite separate, important though it be. It does not at all depend upon the principles and considerations that the educator, properly so called, has in view in the carrying on of his work. The discussion of the subject does not in any way help us in educational matters, as most commonly understood; nor does it derive any illumination from being placed side by side with the arts of the recognised teacher. The fact of bodily health or vigour is a leading postulate in bodily or mental training, but the trainer does not take upon himself to lay down the rules of hygiene.

The inadvertence, for so I regard it, of coupling the Art of Health with Education is easily disposed of, and does not land us in any arduous controversies. Very different is another aspect of these definitions: that wherein the end of Education is propounded as the promotion of human happiness, human virtue, human perfection. Probably the qualification will at once be conceded, that Education is but one of the means, a single contributing agency to the all-including end. Nevertheless, the openings for difference of opinion as to what constitutes happiness, virtue or perfection, are very wide. Moreover, the discussion has its proper place in Ethics and in Theology, and if brought into the field of Education, should be received under protest.

Before entering upon the consideration of this difficulty, the greatest of all, I will advert to some of the other views of Education that seem to err on the side of taking in too much. Here, I may quote from the younger Mill, who, like his father, and unlike the generality of theorists, starts *more scientifico* with a definition. Education, according to him, "includes whatever we do for ourselves, and whatever is done for us by others, for the express purpose of bringing us nearer to the perfection of our nature; in its largest acceptation, it comprehends even the indirect effects produced on character and on the human faculties by things of which the direct purposes are different; by laws, by forms of government, by the industrial arts, by modes of social life; nay even by physical facts not dependent on the human will; by climate, soil, and local position". He admits, however, that this is a very wide view of the subject, and for his own immediate purpose advances a narrower view, namely—"the culture which each generation purposely gives to those who are to be its successors, in order to qualify them for at least keeping up, and, if possible, for raising, the improvement which has been attained". (*Inaugural Address at St. Andrews*, p. 4.)

Besides involving the dispute as to what constitutes 'perfection,'

the first and larger statement is, I think, too wide for the most comprehensive Philosophy of Education. The influences exerted on the human character by climate and geographical position, by arts, laws, government and modes of social life, constitute a very interesting department of Sociology, and have their place there and nowhere else. What we do for ourselves, and what others do for us, to bring us nearer to the perfection of our nature, may be education in a precise sense of the word, and it may not. I do not see the propriety of including under the subject the direct operation of rewards and punishments. No doubt we do something to educate ourselves, and society does something to educate us, in a sufficiently proper acceptation of the word; but the ordinary influence of society, in the dispensing of punishment and reward, is not the essential fact of Education, as I propose to regard it, although an adjunct to some of its legitimate functions.

Mill's narrower expression of the scope of the subject is not exactly erroneous; the moulding of each generation by the one preceding is not improperly described as an education. It is, however, grandiose rather than scientific. Nothing is to be got out of it. It does not give the lead to the subsequent exposition.

I find in the article 'Education,' in *Chambers's Encyclopædia*, a definition to the following effect:—"In the widest sense of the word a man is *educated*, either for good or for evil, by everything that he experiences from the cradle to the grave [say, rather, 'formed,' 'made,' 'influenced']. But in the more limited and usual sense, the term education is confined to the efforts made, of set purpose, to train men in a particular way—the efforts of the grown-up part of the community to inform the intellect and mould the character of the young [rather too much stress on the fact of influence from without]; and more especially to the labours of professional educators or schoolmasters." The concluding clause is the nearest to the point—the arts and methods employed by the schoolmaster; for, although he is not alone in the work that he is expressly devoted to, yet he it is that typifies the process in its greatest singleness and purity. If by any investigations, inventions or discussions, we can improve his art to the ideal pitch, we shall have done nearly all that can be required of a science and art of Education.

I return to the greater difficulty—namely, the question what is the end of all teaching; or, if the end be human happiness and perfection, what definite guidance does this furnish to the educator? I have already remarked that the enquiry is acknowledged to belong to other departments; and, if in these departments clear and unanimous answers have not been

arrived at, the educationist is not bound to make good the deficiency.

For this emergency, there is one thing obvious, another less obvious; the two together exhausting the resources of the educator.

The obvious thing is to fix upon whatever matters people are agreed upon. Of such the number is considerable, and the instances important. They make the universal topics of the schools.

The less obvious thing is, with reference to matters not agreed upon, that the educator should set forth at what cost these doubtful acquisitions would have to be made; for the cost must be at least one element in the decision respecting them. Whoever knows most about Education, is best able to say how far its appliances can cope with such aims as softening the manners, securing self-renunciation, bringing about the balanced action of all the powers, training the whole man, and so forth.

We shall see that one part of the science of Education consists in giving the ultimate analysis of all complex growths. It is on such an analysis that the cost can be calculated; and by means of this, we can best observe whether contradictory demands are made upon the educator.

What we have been drifting to, in our search for an aim, is the work of the school. This may want a little more paring and rounding to give it scientific form, but it is the thing most calculated to fix and steady our vision at the outset.

Now in the success of the schoolmaster's work, the first and central fact is the plastic property of the mind itself. On this depends the acquisition not simply of knowledge but of everything that can be called an acquisition. The most patent display of the power consists in memory for knowledge imparted. In this view the leading enquiry in the art of Education is how to strengthen memory. We are therefore led to take account of the several mental aptitudes that either directly or indirectly enter into the retentive function. In other words, we must draw upon the science of the human mind for whatever that science contains respecting the conditions of memory.

Although memory, acquisition, retentiveness, depends mainly upon one unique property of the intellect, which accordingly demands to be scrutinised with the utmost care, there are various other properties, intellectual and emotional, that aid in the general result, and to each of these regard must be had, in a Science of Education.

We have thus obtained the clue to one prime division of the subject—the purely psychological part. Of no less consequence

is another department at present without a name—an inquiry into the proper or natural order of the different subjects, grounded on their relative simplicity or complexity, and their mutual dependence. It is necessary to success in Education that a subject should not be presented to the pupil, until all the preparatory subjects have been mastered. This is obvious enough in certain cases: arithmetic is taken before algebra, geometry before trigonometry, inorganic chemistry before organic; but in many cases, the proper order is obscured by circumstances, and is an affair of very delicate consideration. I may call this the Analytic or Logical department of the theory of Education.

It is a part of scientific method to take strict account of leading terms, by a thorough and exhaustive enquiry into the meanings of all such. The settlement of many questions relating to education is embarrassed by the vagueness of the single term 'discipline'.

Farther, it ought to be pointed out, as specially applicable to our present subject, that the best attainable knowledge on anything is due to a combination of general principles obtained from the sciences, with well conducted observations and experiments made in actual practice. On every great question there should be a convergence of both lights. The technical expression for this is the union of the Deductive and Inductive Methods. The deductions are to be obtained apart, in their own way, and with all attainable precision. The inductions are the maxims of practice, purified, in the first instance, by wide comparison and by the requisite precautions.

I thus propose to remove from the Science of Education matters belonging to much wider departments of human conduct, and to concentrate the view upon what exclusively pertains to Education—the means of building up the acquired powers of human beings. The communication of knowledge is the ready type of the process, but the training operation enters into parts of the mind not intellectual—the activities and the emotions; the same forces, however, being at work.

Education does not embrace the employment of all our intellectual functions. There is a different art for directing the faculties in productive labour, as in the professions, in the original investigations of the man of science, or the creations of the artist. The principles of the human mind are applicable to both departments, but although the two come into occasional contact, they are so far distinct that there is an advantage in viewing them separately. In the practical treatise of Locke, entitled *The Conduct of the Understanding*, acquisition, production, and invention are handled promiscuously.

BEARINGS OF PHYSIOLOGY.

The science of Physiology, coupled with the accummulated empirical observations of past ages, is the reference in finding out how to rear living beings to the full maturity of their physical powers. This, as we have said, is quite distinct from the process of Education.

The art of Education assumes a certain average physical health, and does not enquire into the means of keeping up or increasing that average. Its point of contact with physiology and hygiene is narrowed to the plastic or acquisitive function of the brain—the property of fixing or connecting the nervous connections that underlie memory, habit and acquired power.

But as physiology now stands, we soon come to the end of its applications to the husbanding of the plastic faculty. The enquiry must proceed upon our direct experience in the work of education, with an occasional check or caution from the established physiological laws. Still, it would be a forgetting of mercies to undervalue the results accruing to education from the physiological doctrine of the physical basis of memory.

On this subject, physiology teaches the general fact that memory reposes upon a nervous property or power, sustained like every other physical power by nutrition, and having its alternations of exercise and rest. It also informs us that, like every other function, the plasticity may be stunted by inaction, and impaired by over-exertion.

As far as pure physiology is concerned, I invite everybody to reflect on one circumstance in particular. The human body is a great aggregate of organs or interests—muscles, digestion, respiration, senses, brain. When fatigue overtakes it, the organs generally suffer; when renovation has set in, the organs generally are invigorated. This is the first and most obvious consequence. It has next to be qualified by the remark that human beings are unequally constituted as regards the various functions; some being strong in muscle, others in stomach, others in brain. In all such persons the general invigoration is unequally shown; the favoured organs receive a share proportioned to their respective capitals: to him that hath shall be given. Still more pertinent is the farther qualification, that the organ that happens to be most active at the time receives more than its share; to exercise the several organs unequally is to nourish them unequally.

To come to the point as regards our immediate object. To increase the plastic property of the mind, you must nourish the brain. You naturally expect that this result will ensue when the body generally is nourished: and so it will, if there be no

exorbitant demands on the part of other organs, giving them such a preference as to leave very little for the organ of the mind. If the muscles or the digestion are unduly drawn upon, the brain will not respond to the drafts made upon it. Obversely, if the brain is constituted by nature, or excited by stimulation, so as to absorb the lion's share of the nutriment, the opposite results will appear; the mental functions will be exalted, and the other interests more or less impoverished. This is the situation for an abundant display of mental force.

But we must farther distinguish the mental functions themselves; for these are very different and mutually exclusive. Great refinement in the subdivisions is not necessary for the illustration. The broadest contrast is the emotional and the intellectual—feeling as pleasure, pain or excitement, and feeling as knowledge. These two in extreme manifestation are hostile to each other: under extreme emotional excitement the intellect suffers; under great intellectual exertion the emotions subside (with limitations unnecessary for our purpose).

But Intellect in the largest sense is not identical with the retentive or plastic operation. The laws of this peculiar phase of our intelligence are best obtained by studying it as a purely mental fact. Yet there is a physiological way of looking at it that is strongly confirmative of our psychological observations. On the physical or physiological side, memory or acquisition is a series of new nervous growths, the establishment of a number of beaten tracks in certain lines of the cerebral substance. Now the presumption is, that as regards the claim for nourishment this is the most costly of all the processes of the intelligence. To exercise a power once acquired should be a far easier thing, much less expensive, than to build up a new acquirement. We may be in sufficiently good condition for the one, while wholly out of condition for the other Indeed success in acquirement, looking at it from the physiological probabilities, should be the work of rare, choice and happy moments: times when cerebral vigour is both abundant and well-directed.

BEARINGS OF PSYCHOLOGY.

The largest chapter in the Science of Education must be the following out of all the psychological laws that bear directly or indirectly upon the process of mental acquirement. Every branch of Psychology will be found available; but more especially the Psychology of the Intellect. Of the three great functions of the Intellect, in the ultimate analysis—Discrimination, Agreement, Retentiveness—the last is the most completely identified with the educative process; but the others enter in as constituents in a way peculiar to each. I will

select, for my present paper, DISCRIMINATION and RETENTIVENESS; and will endeavour to extract from the discussion of these great intellectual functions everything that they appear to yield for the ends of the educator. Although I can impart no novelty to the general statement of these functions, it is possible to make some unhackneyed remarks on their educational consequences.

Discrimination.

Mind starts from Discrimination. The consciousness of difference is the beginning of every intellectual exercise. To encounter a new impression is to be aware of change: if the heat of a room increases ten degrees, we are awakened to the circumstance by a change of feeling; if we have no change of feeling, no altered consciousness, the outward fact is lost upon us; we take no notice of it, we are said not to know it.

Our intelligence is, therefore, absolutely limited by our power of discrimination. The other functions of intellect, the Retentive power, for example, are not called into play, until we have first discriminated a number of things. If we did not originally feel the difference between light and dark, black and white, red and yellow, there would be no visible scenes for us to remember: with the amplest endowment of Retentiveness, the outer world could not enter into our recollection; the blank of sensation is a blank of memory.

Yet farther. The minuteness or delicacy of the feeling of difference is the measure of the variety and multitude of our primary impressions, and, therefore, of our stirred-up recollections. He that hears only twelve discriminated notes on the musical scale, has his remembrances of sounds bounded by these; he that feels a hundred sensible differences, has his ideas or recollections of sounds multiplied in the same proportion. The retentive power works up to the height of the discriminative power; it can do no more. Things are not remembered if they have not first been discriminated.

We have by nature a certain power of discrimination in each department of our sensibility. We can from the outset discriminate, more or less delicately, sights, sounds, touches, smells, tastes; and, in each sense, some persons much more than others. This is the deepest foundation of disparity of intellectual character, as well as of variety in likings and pursuits. If, from the beginning, one man can interpolate five shades of discrimination of colour where another can feel but one transition, the careers of the two men are foreshadowed and will be widely apart.

To observe this native inequality is important in predestining

the child to this or that line of special training. For the actual work of teaching, it is of more consequence to note the ways and means of quickening and increasing the discriminating aptitude. Bearing in mind the fact that until a difference is felt between two things intelligence has not yet made the first step, the teacher is bound to consider the circumstances or conditions favourable and unfavourable to the exercise.

(1.) It is not peculiar to discrimination, but is common to every mental function, to lay down, as a first condition, mental vigour, freshness and wakefulness. In a low state of the mental forces, in languor, or drowsiness, differences cannot be felt. That the mind should be alive, awake, in full force and exercise, is necessary for every kind of mental work. The teacher needs to quicken the mental alertness by artificial means, when there is a dormancy of mere indolence. He has to waken the pupil from the state significantly named *indifference*, the state where differing impressions fail to be recognised as distinct.

(2.) The mind may be fresh and alive, but its energies may be taking the wrong direction. There is a well-known antithesis or opposition between the emotional and the intellectual activities, leading to a certain incompatibility of the two. Under emotional excitement, the intellectual energies are enfeebled in amount, and enslaved to the reigning emotion. It is in the quieter states of mind that discrimination, in common with other intellectual powers, works to advantage. I will afterwards discuss more minutely the very delicate matter of the management of the various emotions in the work of teaching.

(3.) It must not be forgotten that intellectual exercises are in themselves essentially insipid, unattractive, indifferent. As exertion, they impart a certain small degree of the delight that always attends the healthy action of an exuberant faculty ; but this supposes their later developments, and is not a marked peculiarity in the child's commencing career. The first circumstance that gives an interest to discrimination is pleasurable or painful stimulus. Something must hang on a difference before the mind is made energetically awake to it. A thoroughly uninteresting difference is not an object of attention to any one.

The transitions from cold to hot, dark to light, strain to relief, hunger to repletion, silence to sound, are all more or less interesting, and all more or less impressive. But then they are vehement and sensational. It is necessary in order to the furnishing of the intelligence, that smaller and less sensational transitions should be felt ; the intellectual nature is characterised by requiring the least amount of emotional flash in order to

impress a difference. A loud and furious demonstration will certainly compel attention and end in the feeling of difference, but the cost is too great to be often repeated.

(4.) The great practical aid to the discovery and the retention of difference is immediate succession or, what comes to the same thing, close juxta-position. A rapid transition makes evident a difference that would not be felt after an interval, still less if anything else were allowed to occupy the mind in the meantime. This fact is sufficiently obvious, and is turned to account in easy cases; but is far from thoroughly worked out by the teacher and the expositor. Any trifling diversion will suffice to blind us to its importance.

We compare two notes by sounding them in close succession; two shades of colour by placing them side by side; two weights by holding them in the two hands, and attending to the two feelings by turns. These are the plain instances. The comparison of forms leads to complications, and we cease to attempt the same kind of comparison. For mere length we lay the two things alongside; so for an angle. For number, we can place two groups in contiguous rows—three by the side of four or five—and observe the surplus.

Mere size is an affair of simple juxta-position. Form, irrespective of size, is less approachable. A triangle and a quadrangle are compared by counting the sides, and resolving the difference of form into the simpler element of difference of number. A right-angled, an acute-angled, an isosceles triangle, must be compared by the juxta-position of angles. A circle and an oval are represented by the alternatives of curvature and diameters; in the one the curvature uniform, and the diameters equal, in the other, the curvature varying and the diameters unequal. The difference between a close and an open curve is palpable enough.

The geometrical forms are thus resolvable into very simple bases of comparison: and the teacher must analyse them in the manner now stated. For the irregular and capricious forms, the elementary conceptions are still the same—lineal size, number, angular size, curvature—but the mode of guiding the attention may be various. Sometimes there is a strong and overpowering similarity, with a small and unconspicuous difference; as in our ciphers (compare 3 and 5), and in the letters of our alphabet (C, G), and still more in the Hebrew alphabet. For such comparisons, the difference, such as it is, needs to be very clearly drawn or even exaggerated. Another method is to have models of the same size to lay over one another, so as to bring out the difference through the juxta-position. By a distinct effort, the teacher calls on the learner to view, with single-

minded attention, the differing circumstance, and afterwards to reproduce it by his own hand. One express lesson consists in asking the pupil what are the ciphers, or the letters, that are nearly alike, and what are the points of difference.

The higher arts of comparison to impress difference are best illustrated when both differences and agreements have to be noted. They would have to be resumed after the discussion of the intellectual force of Agreement or Similarity. The chief stress of the present explanation lies in regarding Discrimination as the necessary prelude of every intellectual impression, as the basis of our stored-up knowledge, or memory. Agreement is pre-supposed likewise; but there is not the same necessity, nor is it expedient, to follow out the workings of Agreement, before considering the plastic power of the intellect.

The Retentive Faculty.

This is the faculty that most of all concerns us in the work of Education. On it rests the possibility of mental growths or capabilities not given by nature.

Every impression made upon us, if sufficient to awaken consciousness at the time, has a certain permanence; it can persist after the original ceases to work; and it can be restored afterwards as an idea or remembered impression. The bursting out of a flame arouses our attention, gives a strong visible impression, and becomes an idea or deposit of memory. It is thought of afterwards without being actually seen.

It is not often that one single occurrence leaves a permanent and recoverable idea; usually, we need several repetitions for the purpose. The process of fixing the impression occupies a certain length of time; either we must prolong the first shock, or renew it on several successive occasions. This is the first law of Memory, Retention or Acquisition: "Practice makes perfect"; "Exercise is the means of strengthening a faculty," and so forth. The good old rule of the schoolmaster is simply to make the pupil repeat, rehearse, or persist at, a lesson, until it is learnt.

All improvement in the art of teaching consists in having regard to the various circumstances that facilitate acquirement, or lessen the number of repetitions for a given effect. Much is possible in the way of economising the plastic power of the human system; and when we have pushed this economy to the utmost, we have made perfect the Art of Education in one leading department. It is thus necessary that the consideration of all the known conditions that favour or impede the plastic growth of the system, should be searching and minute.

Although some philosophers have taught that all minds are

nearly equal in regard to facility of acquirement, a schoolmaster that would say so, must be of the very rudest type. The inequality of different minds in imbibing lessons, under the very same circumstances, is a glaring fact; and is one of the obstacles encountered in teaching numbers together, that is, classes. It is a difficulty that needs a great deal of practical tact or management, and is not met by any educational theory.

The different kinds of acquirements vary in minor circumstances which are important to be noticed after exhausting the general or pervading conditions. The greatest contrast is between what belongs to Intelligence, and what belongs to the Feelings and the Will. The more strictly Intellectual department comprises Mechanical Art, Language, the Sensible World, the Sciences, Fine Art; and to each of these heads may attach specialities not hard to assign.

General circumstances favouring Retentiveness.

(1.) The Physical condition. This has been already touched upon, both in the review of Physiology, and in the remarks on Discrimination. It includes general health, vigour and freshness at the moment, together with the farther indispensable proviso, that the nutrition, instead of being drafted off to strengthen the mere physical functions, is allowed to run in good measure to the brain.

In the view of mental efficiency, the muscular system, the digestive system, and the various organic interests, are to be exercised up to the point that conduces to the maximum of general vigour in the system, and no farther. They may be carried farther in the interest of sensual enjoyment, but that is not now before us. Hence a man must exercise his muscles, must feed himself liberally and give time to digestion to do its work, must rest adequately—all for the greatest energy of the mind, and for the trying work of education in particular. Nor is it so very difficult, in the present state of physiological and medical knowledge, to assign the reasonable proportions in all these matters, for a given case.

Everything tends to show that, in the mere physical point of view, the making of impressions on the brain, although never remitted during all our waking moments, is exceedingly unequal at different times. We must be well aware that there are moments when we are incapable of receiving any lasting impressions, and there are moments when we are unusually susceptible. The difference is not one wholly resolvable into more mental energy on the whole; we may have a considerable reserve of force for other mental acts, as the performance of routine offices, and not much for retaining new impressions; we

are capable of reading, talking, writing, and of taking an interest in the exercises; we may indulge emotions, and carry out pursuits, and yet not be in a state for storing the memory, or amassing knowledge. Even the incidents that we take part in sometimes fail to be remembered beyond a very short time.

What, then, is there so very remarkable and unique in the physical support of the plastic property of the brain? What are the moments when it is at the plenitude of its efficiency? What are the things that especially nourish and conserve it?

Although there is still wanting a careful study of this whole subject, the patent facts appear to justify us in asserting, that the plastic or retentive function is the very highest energy of the brain, the consummation of nervous activity. To drive home a new experience, to make an impression self-sustaining and recoverable, uses up (we are to suppose) more brain force than any other kind of mental exercise. The moments of susceptibility to the storing up of knowledge, the engraving of habits and acquisitions, are thus the moments of the maximum of unexpended force. The circumstances need to be such as to prepare the way for the highest manifestation of cerebral energy; including the perfect freshness of the system, and the absence of everything that would speedily impair it.

To illustrate this position, I may refer to the kind of mental work that appears to be second in its demand on the energy of the brain. The exercise of mental constructiveness—the solving of new problems, the applying of rules to new cases, the intellectual labour of the more arduous professions, as the law, where a certain amount of novelty attends every case that occurs—demands no little mental strain, and is easy according to the brain vigour of the moment. Still, these are exercises that can be performed with lower degrees of power; we are capable of such professional work in moments when our memory would not take in new and lasting impressions. In old age, when we cease to be educable in any fresh endowment, we can still perform these constructive exercises; we can grapple with new questions, invent new arguments and illustrations, decide what should be done in original emergencies.

The constructive energy has all degrees, from the highest flights of invention and imagination down to the point where construction shades off into literal repetition of what has formerly been done. The preacher in composing a fresh discourse puts forth more or less of constructiveness: in repeating prayers and formularies, in reading from book, there is only reminiscence. This is the third and least exigent form of mental energy; it is possible in the very lowest states of cerebral vigour. When acquisition is fruitless, construction is possible; when a slight

departure from the old routine passes the might of the intelligence, literal reminiscence may operate.

Another mode of mental energy that we are equal to, when the freshness of our susceptibility to new growths has gone off, is searching and noting. This needs a certain strain of attention; it is not possible in the very lowest tide of the nervous flow; but it may be carried on with all but the smallest degrees of brain power. When the scholar or the man of science ceases to trust his memory implicitly for retaining new facts that occur in his reading, observation or reflection, he can still keep a watch for them, and enter them in his notes. So in the hours of the day when memory is less to be trusted, useful study may still be maintained by the help of the memorandum and the note-book.

The indulgence of the emotions (when not violent or excessive) is about the least expensive of our mental exercises, and may go on when we are unfit for any of the higher intellectual moods, least of all for the crowning work of storing up new knowledge or new aptitudes. There are degrees here also; but, speaking generally, to love or to hate, to dominate or to worship, although impossible in the lowest depths of debility, are within the scope of the inferior grades of nervous power.

From this estimate of comparative outlay, we may judge what are the times and seasons and circumstances most favourable to acquirement. It may be assumed that in the early part of the day the total energy of the system is at its height, and that towards evening it flags; hence morning is the season of improvement. For two or three hours after the first meal, the strength is probably at the highest; total remission for another hour or two, and a second meal, (with physical exercise when the labour has been sedentary), prepare for a second display of vigour, although presumably not equal to the first; when the edge of this is worn off, there may, after a pause, be another bout of application, but far inferior in result to the first or even to the second. No severe strain should be attempted in this last stage; not much stress should be placed on the available plasticity of the system, although the constructive and routine efforts may still be kept up.

The regular course of the day may be interfered with by exceptional circumstances, but these only confirm the rule. If we have lain idle or inactive for the early hours, we may of course be fresher in the evening, but the late application will not make up for the loss of the early hours; the nervous energy will gradually subside as the day advances however little exertion we may make. Again, we may at any time determine an outburst of nervous energy by persistent exercise and by

stimulation, which draws blood to the brain, without regard to circumstances and seasons, but this is wasteful in itself and disturbing to the healthy functions.

As a general rule, the system is at its greatest vigour in the cold season of the year; and most work is done in winter. Summer studies are comparatively unproductive.

The review of the varying plasticity in the different stages of life might be conducted on the same plan of estimating the collective forces of the system, and the share of these available for brain work, but other circumstances have to be taken into the account, and I do not enter upon the question here.

There are many details in the economy of the plastic power that have a physical as well as a mental aspect. Such are those relating to the strain and remission of the Attention, to the pauses and alternations during the times of drill, to the moderating of the nervous excitement, and other matters. These should all find a place under the head of the Retentive function. It is expedient now to take up the consideration of the subject from the purely mental side.

(2.) The one circumstance that sums up all the mental aids to plasticity is CONCENTRATION. A certain expenditure of nervous power is involved in every adhesion, every act of impressing the memory, every communicated bias; and the more the better. This supposes, however, that we should withdraw the forces, for the time, from every other competing exercise; and especially, that we should redeem all wasting expenditure for the purpose in view.

It is requisite, therefore, that the circumstances leading to the concentration of the mind should be well understood. We assume that there is power available for the occasion, and we seek to turn it into the proper channel. Now there is no doubt that the will is the chief intervening influence, and the chief stimulants of the will are, as we know, pleasure and pain. This is the rough view of the case. A little more precision is attainable through our psychological knowledge.

And first, the Will itself as an operating or directing power, that is to say, the moving of the organs in a given way under a motive, is a growth or culture; it is very imperfect at first, and improves by usage. A child of twelve months cannot by any inducement be prompted readily to clap its hands, to point with its forefinger, to touch the tip of its nose, to move its left shoulder forward. The most elementary acts of the will, the alphabet of all the higher acquisitions, have first to be learned in a way of their own; and until they have attained a sufficient advancement, so as to be amenable to the spur of a motive, the teacher has nothing to go upon.

I have elsewhere described this early process, as I conceive it, in giving an account of the development of the Will. In the practice of education, it is a matter of importance as showing at what time mechanical instruction is possible, and what impedes its progress at the outset, notwithstanding the abundance of plasticity in the brain itself. The disciplining of the organs to follow directions would seem to be the proper province of the Infant school.

Coming now to the influences of concentration, we assign the first place to intrinsic charm, or *pleasure in the act* itself. The law of the Will, in its side of greatest potency, is that Pleasure sustains the movement that brings it. The whole force of the mind at the moment goes with the pleasure-giving exercise. The harvest of immediate pleasure stimulates our most intense exertions, if exertion serves to prolong the blessing. So it is with the deepening of an impression, the confirming of a bent or bias, the associating of a couple or a sequence of acts; a coinciding burst of joy awakens the attention and thus leads to an enduring stamp on the mental framework.

The engraining efficiency of the pleasurable motive requires not only that we should not be carried off into an accustomed routine of voluntary activities, such as to give to the forces another direction, as when we pace too and fro in a flower garden; but also that the pleasure should not be intense and tumultuous. The law of the mutual exclusion of great pleasure and great intellectual exertion forbids the employment of too much excitement of any kind, when we aim at the most exacting of all mental results—the forming of new adhesive growths. A gentle pleasure that for the time contents us, there being no great temptation at hand, is the best foster-mother of our efforts at learning. Still better, if it be a growing pleasure; a small beginning, with steady increase, never too absorbing, is the best of all stimulants to mental power. In order to have a yet wider compass of stimulation, without objectionable extremes, we might begin on the negative side, that is, in pain or privation, to be gradually remitted in the course of the studious exercise, giving place at last to the exhilaration of a waxing pleasure. All the great teachers from Socrates downwards seem to recognise the necessity of putting the learner into a state of pain to begin with; a fact that we are by no means to exult over, although we may have to admit the stern truth that is in it. The influence of pain, however, takes a wider range than here supposed, as will be seen under our next head.

A moderate exhilaration and cheerfulness growing out of the act of learning itself is certainly the most genial, the most effectual means of cementing the unions that we desire to form

in the mind. This is meant when we speak of the learner having a taste for his pursuit, having the *heart* in it, learning *con amore.* The fact is perfectly well known; the error, in connection with it, lies in dictating or enjoining this state of mind on everybody in every situation, as if it could be commanded by a wish, or as if it were not itself an expensive endowment. The brain cannot yield an exceptional pleasure without charging for it.

Next to pleasure in the actual, as a concentrating motive, is pleasure in *prospect,* as in learning what is to bring us some future gratification. The stimulus has the inferiority attaching to the idea of pleasure as compared with the reality. Still it may be of various degrees, and may rise to a considerable pitch of force. Parents often reward their children with coins for success in their lessons; the conception of the pleasure in this case is nearly equal to a present tremor of sense-delight. On the other hand, the promises of fortune and distinction, after a long interval of years, have seldom much influence in concentrating the mind towards a particular study.

Let us now view the operation of Pain. By the law of the will, pain repels us from the thing that causes it. A painful study repels us, just as an agreeable one attracts and detains us. The only way that pain can operate is when it is attached to neglect, or to the want of mental concentration in a given subject; we then find pleasure, by comparison, in sticking to our task. This is the theory of punishing the want of application. It is in every way inferior to the other motives; and this inferiority should be always kept in view in employing it, as every teacher often must with the generality of scholars. Pain is a waste of brain-power; while the work of the learner needs the very highest form of this power. Punishment works at a heavy percentage of deduction, which is still greater as it passes into the well-defined form of terror. Every one has experienced cases where severity has rendered a pupil utterly incapable of the work prescribed.

Discarding all *a priori* theories as to whether the human mind can be led on to study by an ingenious system of pleasurable attractions, we are safe to affirm that if the physical conditions are properly regarded, if the work is within the compass of the pupil's faculties, and if a fair amount of assistance is rendered in the way of intelligible direction, although some sort of pain will frequently be necessary, it ought not to be so great as to damp the spirits and waste the plastic energy.

The line of remark is exactly the same for pain in prospect, with allowance for the difference between reality and the idea. It is well when prospective pain has the power of a motive,

because the future bad consequences of neglect are so various and so considerable, as to save the resort to any other. But since the young mind in general is weak in the sense of futurity, whether for good or for evil, only very near, very intelligible and very certain pains can take the place of presently acting deterrents.

In the study of the human mind, we need, for many purposes, to draw a subtle distinction between feeling as Pleasure or Pain, and feeling as Excitement not necessarily pleasurable or painful. This subtlety cannot be dispensed with in our present subject. There is a form of mental concentration that is properly termed excitement, and is not properly termed pleasurable or painful excitement. A loud or sudden shock, a rapid whirling movement, stirs, wakens or excites us; it may also give us pleasure or pain, but it may be perfectly neutral: and even when there is pleasure or pain, there is an influence apart from what would belong to pleasure or pain, as such. A state of excitement seizes hold of the mind for the time being and shuts out other mental occupations; we are engrossed with the subject that brought on the state, and are not amenable to extraneous influences, until that has subsided. Hence, excitement is pre-eminently a means of making an impression, of stamping an idea in the mind: it is strictly an intellectual stimulus. There is still the proviso (under the general law of incompatibility of the two opposite moods) that the excitement must not be violent and wasting. In well-understood moderation, excitement is identical with attention, mental engrossment, the concentration of the forces upon the plastic or cementing operation, the rendering permanent as a recollection what lies in the focus of the blaze. Excitement, so defined, is worthless as an end, but is valuable as a means; and that means is the furtherance of our mental improvement by driving home some useful concatenation of ideas.

Another subtlety remains—a distinction within a distinction. After contrasting feeling as excitement with feeling as pleasure or pain, we must separate the useful from the useless or even pernicious modes of excitement. The useful excitement is what is narrowed and confined to the subject to be impressed; the useless, and worse than useless, excitement is what spreads far and wide, and embraces nothing in particular. It is easy to get up the last species of excitement—the vague, scattered, and tumultuous mode—but this is not of avail for any set purpose; it may be counted rather as a distracting agency than as a means of calling forth and concentrating the attention upon an exercise.

The true excitement for the purpose in view is what grows

out of the very subject itself, surrounding and adhering to that subject. Now for this kind of excitement, the recipe is continuous application of the mind in perfect surrounding stillness. Restrain all other solicitation of the senses, keep the attention upon the one act to be learnt; and, by the law of nervous and mental persistence, the currents of the brain will become gradually stronger and stronger, until they have reached the point when they do no more good for the time. This is the ideal of concentration by neutral excitement.

The enemy of such happy neutrality is pleasure from without; and the youthful mind cannot resist the distraction of a present pleasure, or even the scent of a far-off pleasure. The schoolroom is purposely screened off from the view of what is going on outside; while all internal incidents that hold out pleasurable diversion are carefully restrained, at least during the crisis of a difficult lesson. A touch of pain, or apprehension, if *only slight*, is not unfavourable to the concentration.

A very important observation remains, namely, that relationship of Retention to Discrimination which was stated in introducing the function of Discrimination. The consideration of this relationship illustrates with still greater point the true character of the excitement that concentrates and does not distract nor dissipate the energies. The moment of a delicate discrimination is the moment when the intellectual force is dominant; emotion spurns nice distinctions, and incapacitates the mind for feeling them. The quiescence and stillness of the emotions enables the mind to give its full energies to the intellectual processes generally; and of these, the fundamental is perception of difference. Now the more mental force we can throw into the act of noting a difference, the better is that difference felt, and *the better it is impressed.* The same act that favours discrimination, favours retention. The two cannot be kept separate. No law of the intellect appears to be more certain than the law that connects our discriminating power with our retentive power. In whatever class of subjects our discrimination is great—colours, forms, tunes, tastes—in that class our retention is great. Whenever the attention can be concentrated on a subject in such a way as to make us feel all its delicate lineaments, which is another way of stating the sense of differences, through that very circumstance a great impression is made on the memory; there is no more favourable moment for engraving a recollection.

The perfection of neutral excitement, therefore, is typified by the intense rousing of the forces in an act or a series of acts of discrimination. If by any means we can succeed in this, we are sure that the other intellectual consequences will follow. It is a rare and difficult attainment in volatile years: the con-

ditions, positive and negative, for its highest consummation cannot readily be commanded. Yet we should clearly comprehend what these conditions are; and the foregoing attempt has been made to seize and embody them.

Pleasure and pain, besides acting in their own character, that is, directing the voluntary actions, have a power as mere excitement, or as wakening up the mental blaze, during which all mental acts, including the impressing of the memory, are more effective. The distinction must still be drawn between concentrated and diffused excitement, between excitement *in*, and excitement *away from*, the work to be done. Pleasure is the most favourable adjunct, if not too great. Pain is the more stimulating or exciting; under a painful smart the forces are very rapidly quickened for all purposes, until we reach the point of wasteful dissipation. This brings us round again to the Socratic position, the preparing of the learner's mind by the torpedo or the gad-fly.

The full compass of the operation of the painful stimulant is well shown in some of our most familiar experiences as learners. In committing a lesson to memory, we con it a number of times by the book: we then try without the book. We fail utterly, and are slightly pained by the failure. We go back to the book, and try once more without it. We still fail, but strain the memory to recover the lost trains. The pains of failure and the act of straining stimulate the forces; the attention is roused seriously and energetically. The next reference to the book finds us far more receptive of the impression to be made; the weak links are now re-inforced with avidity, and the next trial shows the value of the discipline that has been undergone.

One remark more will close the view of the conditions of plasticity. It is that Discrimination and Retentiveness have a common support in rapidity and sharpness of transition. A sharp and sudden change is commonly said to make a strong *impression:* the fact implied concerns discrimination and retention alike. Vague, shadowy, ill-defined boundaries fail to be discriminated, and the subjects of them are not remembered. The educator finds great scope for his art in this consideration also.

A. Bain.

II.—AN INTROSPECTIVE INVESTIGATION.

I commenced more than twenty years ago an introspective investigation in reference to a disputed point in mental science —whether or not man is a personal agent in the forming or producing of his will-to-act, or, as some call it, his act of will. "I never yet caught myself," says Jonathan Edwards (in his *Dissertation concerning Liberty and Necessity*, p. 171), "in the act of *making a volition*, if this mean anything more than *having* a volition, or being the subject of it. If any man be conscious that he makes his own volitions, he is doubtless conscious of two distinct acts in this; one *the act made* by himself, another *the act making* or by which he makes *the act made*. Now will any man profess to the world, that he is or ever has been conscious of these distinct acts?" (The italics are in the original.) The volition—the will-to-act—is here spoken of, first as a mental *state*, of which man is "the subject," and then as a mental *act*, the act by which man makes his acts.

In common with Jonathan Edwards, and with many others, I had never yet caught myself making a volition, and therefore I did not believe that man has any "power efficiently to cause a volition in himself," or to form his will-to-act, or his determination (p. 170). My opinion upon this point was very plainly stated by Mr. J. S. Mill, when, in his *Logic*, he said that our will-to-act is "given us, not by any efforts of ours, but by circumstances which we cannot help"; and when, speaking of the idea that man has a "power over his volitions," in his *Examination of Sir William Hamilton's Philosophy*, he said, "in common with one-half of the psychological world, I am wholly ignorant of my possessing any such power".

I desired to ascertain, if I could, what it could be which caused the common belief that man is a personal agent in the forming of his determinations. What I believed upon this point was, that our will-to-act is the effect of the strongest motive-feeling, and that our motive-feelings and their relative strength, upon every occasion, are effects of conditions within us and external to us at the time; and that, therefore, our motive-feelings and our will-to-act are formed "for us, and not by us". I was persuaded into this belief, with no little difficulty, some twenty years before, being then more than twenty years of age, and having until then believed vaguely, as persons do who have never thought particularly upon the subject, and as many do who have thought particularly upon it, that our will-to-act is made by ourselves. During the intervening more than twenty years I often discussed the subject, verbally and in writing, and my belief that man is not a personal agent in the forming of his

determinations was confirmed by the knowledge that many distinguished writers upon mental science were of the same opinion, and by the inability of the opponents of this view to point out the mental facts by which they were made conscious, as they said, that this opinion is not correct. But I was often disappointed to find that I was not able to convince the opponents of this opinion that they were in error in denying it. They said they were conscious—they perceived introspectively—that they did something in the forming of their determinations; they were conscious of a *nisus* or effort. And when I pointed out to them that our motive-feelings and their relative strength are dependent upon internal and external conditions, I was told by some of them that they felt that they themselves produced the preponderance of the motive-feeling from which they acted. But I asked them in vain to describe or point out to me *what* they did, or *how* they produced the final preponderance of the motive-feeling. They could only say that they were conscious of a *nisus* or effort in willing, or in the forming of their will-to-act. And from writers upon the subject I could not obtain any more information upon this point. I therefore at last set to work to try to ascertain what there could be in their mental experience to excite in them what I believed to be the illusory idea that they did something in the forming of their determinations.

I. Knowing that the desired information could only be obtained by examining into the *facts* of the subject, and that I could only examine the facts of the subject, directly, by observing my own mental experience, I began to ask myself, "What do we do in willing, or what is there in willing, to account for the supposed consciousness of effort in connection with it?" I found that the will to do an act, in the strict sense of the term, is the mental fact which immediately precedes an act. It is not a wish or a desire; because we may have a wish or a desire to do an act, and not have a will to do it. And it is not any other feeling or emotion which is not immediately followed by the act to which it has reference. The *will* to do an act is always followed immediately by the act. We cannot do an act (we cannot move a finger, for instance) without having a will to do it; and we cannot have a will to do an act (to move our finger, for instance), and not do it. And to will to do an act is to *have* a will to do it; as to desire to do an act is to *have* a desire to do it. The will-to-act, therefore, is a mental *state;* it is not an "*act* of will". We do not *do* a will to do an act; we have it. There is no action, therefore—no *nisus* or effort—in willing. Voluntary *nisus* or effort is preceded by a will to make it; and to confound the effort with the will to make it, and to imagine that a will-to-act is an *act* of will, is a fundamental mistake.

II. My next question was, "*What* is a will-to-act?" Looking again into the facts of my mental experience, I found, first, that to have a will-to-act we must have a *thought* of the act which we have a will to do. But I found that a thought of an act is not a will to do it. In the will-to-act, therefore, there must be the thought and something more. What is this something more? It must be emotion. What is this emotion, and how shall we describe it? It is the kind of emotion which we feel when we have a strong impulse to do an act. And therefore we may call it impulsive emotion. As a desire to do an act, for instance, is a thought of the act, combined with the emotion of desire; and as in joy, hope, fear, &c., we have a thought in conjunction with the peculiar emotion of these feelings; so in a will to do an act we have a thought of the act willed, in conjunction with emotion. If we carefully observe the combination of thought and feeling which immediately precedes an act (or rather, if we carefully recollect it—for the transition from the will-to-act to the act is so instantaneous that we have no time to observe the will-to-act—we can only recollect it), we may perceive distinctly that it is so. And we may perceive that a will to do an act is a decisive impulse to do it, and that what is commonly called an impulse, which is not followed by the act, is an indecisive impulse. In the will-to-act, therefore, the impulsive emotion is stronger than it is in the indecisive impulse. I had thus obtained a second step in the investigation. I had ascertained decisively, by distinctly tracing the *facts* of the subject, first, that a will-to-act is the mental state which is the immediate mental antecedent of action, and that it is not an "*act* of will"; and secondly, that it is a combination of thought and emotion, and that it is a decisive impulse to do an act.

III. The next question to be asked of the facts of our mental experience was, "What is mental action?" We do not *do* our sensations, or our thoughts, or our emotions, or our volitions; and what more is there for us to do in our mental operations? What do we do, for instance, when we attend? We are told by some philosophers that we do nothing when we attend to a thought—that "to have an interesting idea and to attend to it are the same". But we are conscious—we perceive introspectively—that we *do* something, that we are not passive in attending to a thought, however passive we may be at times in having thoughts. And we are told by other philosophers that attention is a mental act, but they do not tell us *what* we do in attending. If we observe carefully the mental facts which occur in us when we attend to a thought, we find that, when we do so, we *keep up* the thought to which we are said to attend. Attention, then, is not simply a mental act—it is an active mental operation, in which

we have thoughts and keep them up; as looking (the mental part of it) is an active mental operation, in which we have perceptions of sight and keep them up. What we *do*, then, in attending, and in other active mental operations, is, that we *keep up* thoughts or perceptions. It is here, then, if anywhere, that we shall find the *nisus* of which the philosophers are conscious who say that we are personal agents in the forming of our determinations, or that we produce the preponderance of the motive-feeling, or the impulse, which becomes decisive.

IV. I had next to ascertain whether by keeping up thoughts we can in any way assist in the forming of our will-to-act, or in producing the preponderance of one impulse over another, and whether, therefore, there is the personal agency, or effort, in the forming of our determinations, of which some philosophers say they are conscious, but of which, if they are so, their consciousness is so vague or dim that they are unable to point out the facts of the mental process. And I therefore sought to ascertain what is the effect of keeping up a thought. And I found that when we keep up a thought it becomes clearer or more distinct; as when we keep up a perception of sight, by looking at an object, the perception becomes clearer or more distinct. And that as the thought is kept up the emotion which is connected with it becomes stronger. And that when one thought is kept up other thoughts are kept down, more or less, and the emotion connected with them is also kept down. This is what is done, by instinct more than by intelligent intention, when men endeavour to "drive away sorrow". They drive away the thoughts with which their emotion of sorrow is connected, by keeping up other thoughts; and they succeed or do not succeed in producing the desired effect, as they persevere and are successful, or not, in their endeavours to keep away or to modify the thoughts by which their grief is excited, and as their endeavours are well or ill directed.

V. Applying the facts which had now been clearly ascertained, in tracing the mental process by which our volitions are produced, I found that when there are more impulses than one, as when we are in doubt whether we will do this act or that, we may, and in many cases we do, increase the strength of one of the impulses by keeping up the thought which is the intellectual part of it. This is what we do when we successfully resist a temptation of any kind. In cases in which we merely form a choice by ascertaining, so far as we are able to do so, the course of action which will be the most beneficial, it is still by obtaining and keeping up the thoughts or the perceptions by which we are conscious of the advantages and the disadvantages of the acts under consideration that we obtain the decisive impulse, or

are personal agents in the forming of it. In such a simple case, for instance, as in choosing an orange from a heap, we look first at one orange and then at another, until we find one which appears to us to be the best. And we thus form the determination to take that particular orange. It is evident, therefore, when we know the facts of the subject, that it is a mistake to suppose that our will-to-act is in all cases "given us without any efforts of ours". And if "we never yet caught ourselves in the act of making a volition," it was not because we never did make one—it was because our ideas of the mental facts of the case were so vague and erroneous that it was impossible that we should know what we were doing when we did so. In some cases, it is true, the forming of the decisive impulse is so instantaneous that our will to act may truly be said to be "given us without any effort of ours". As when, for instance, one orange is offered to us and we take it. But even in such a case, there is often a rapid keeping up of various thoughts before we decide. And in very many cases we attend carefully to various considerations before our decision is produced, and are therefore distinctly personal agents in the forming of it.

The instinctive consciousness of the difference between forming a choice or a determination, and having a choice or a determination when it has been formed, is shown in the common language of men. To "elect," to "determine," to "decide" upon a course of action, is to *form* an election, a determination, a decision, a will-to-act. To "prefer" is to *have* a preference. But the vagueness of the instinctive consciousness is shown by the use of same word in both senses. To "choose," for instance, may mean either to form a choice, or to have a choice or preference when it has been formed. And the verb to "will," though it can only be used correctly in the sense of *having* a will-to-act, is often used in the active sense, or as if to will to do an act were to do an "act of will"—as in the quotation above from Jonathan Edwards.

We have a curious illustration of the vague consciousness of effort in the forming of our determinations, while in theory the occurrence of effort is denied, in a remark of Mr. Mill, in his *Logic*, when he says that "even in yielding to his temptations a person may know that he could resist". But to "resist" a temptation is to *do* something in the forming of our determination. Mr. Mill's explanation that in such a case "there would not be required a stronger desire than the individual knows himself to be capable of *feeling*," is no description of what takes place when we "resist" a temptation. When we resist a temptation we *do* something to produce in ourselves the preponderating impulse to refrain from doing what we are tempted

to do. And nothing of this kind could occur if our will to act were at all times "given us without any efforts of ours".

VI. We have thus obtained the object of our introspective investigation. And the result turns out to be the reverse of that which was looked for. It is, however, a result which may be said to be scientifically certain; for it has been obtained by the process of observing and re-observing the *facts* of the subject, and its correctness is guaranteed by the facts, which may be observed again and again, and have been so observed until what may be called complete practical verification has been obtained. While these facts were viewed and spoken of in the confused and erroneous manner in which in various ways they have been viewed and spoken of by philosophers and by mankind in general, it was impossible that the mental process by which we form determinations should be ascertained. It was by obtaining step by step, and by slow degrees, correct and clear perceptions of the nature of the mental facts which occur in this process, that the process was analysed. And now that it is analysed, the facts of it are seen to be extremely simple, although they appeared mysterious and inscrutable before—as all facts are while they are not understood and cannot be pointed out.

Many highly important consequences follow from the correct view of the subject which has thus been obtained, and many comments upon it may be made. But the consideration of these must be reserved. In the meantime, the reader has now before him, so far, in a short compass, the result of years of careful investigation.

HENRY TRAVIS.

III.—HEDONISM AND ULTIMATE GOOD.

IT has often been observed that systematic enquiry into the nature of the Supreme End of human action, the *Bonum* or *Summum Bonum*, belongs almost exclusively to ancient ethical speculation; and that in modern ethics its place is supplied by an investigation of the fundamental Moral Laws, or Imperatives of the Practical Reason. While the ancients appear as chiefly endeavouring to determine the proper ultimate object of rational pursuit, the moderns are chiefly occupied in discussing the basis and validity of a received code of rules, for the most part restrictive rather than directive of human effort. But though this difference has frequently been noticed, I am not aware that any distinct explanation of it has ever been offered: while again there are many signs that ethical speculation in England has reached a point at which this old question as to the nature of

Ultimate Good again presents itself as fundamental. If these signs are not misleading, it will be interesting to ascertain, from a comparison between ancient and modern thought, how far the speculative excursion which has ended in conveying us back to the old problem has brought us to face it from a new point of view, and under new conditions.

When we compare the Greek investigation of Ultimate Good with our own, we find an important difference in the very form of the fundamental question. What we, as moralists, are naturally led to seek, is the true account of *general* good; for most of us almost unhesitatingly assume that moral action, as such, must have relation to universal ends. But for the Greek moralist, the primary question as naturally and inevitably took an egoistic form.* The Good which he studied was 'good for himself,' or for any other individual philosophic soul, enquiring after the true way of life. This difference is sufficiently obvious and has been noticed by more than one writer; but it has perhaps been somewhat obscured for modern readers by the antithetical fact, to which more attention has been drawn, that the political speculation of Greece differs from our own precisely in its non-individualistic character. There is really no contradiction between the assumption in ethics of the agent's private good as the ultimate determinant of rational action; and the assumption in politics of the good of the state—without regard to any 'natural rights' of its component parts—as the ultimate end and standard of right political organisation. Indeed it would not be difficult to show that the two assumptions naturally belong to the same stage in the development of practical philosophy. Still they have somewhat tended to confuse each other, through that blending of politics with ethics in philosophical discussion which characterises the period from Socrates to Aristotle; and the confusion has been further increased by the analogy between the Individual and the State, which forms the basis of Plato's most famous treatise. This very analogy, however, when carefully examined, brings out most strikingly the characteristic which it, at first, tends to obscure; for the individual man being considered as a polity of impulses, his good is made to consist essentially in the due ordering of the internal relations of this polity, and is only secondarily and indirectly realised in the relations of this complex individual to other men. And in Aristotle's detailed

* This statement requires some qualification in so far as it concerns Plato, on account of his peculiar ontology. Still this does not so much affect the question Plato asked, as the answer he gave to it, and even that only to a limited extent; not (*e. g.*) in the *Philebus*, where the *ἀγαθὸν* investigated is just the *ἀνθρώπινον ἀγαθὸν* of Aristotle.

analysis of the moral ideal of his age, the fundamental egoism of the form in which it is conceived is continually illustrated, in striking contrast to the modern tendency to regard "the scope and object of ethics as altogether social".* The limits of Aristotle's Liberality are not determined by any consideration of its effect on the welfare of its recipients, but by an intuitive sense of the noble and graceful quality of expenditure that is free without being too lavish; and his Courageous warrior is not commended as devoting himself for his country, but as attaining for himself, even amid pains and death, the peculiar *καλὸν* of a courageous act.

No doubt we must bear in mind that this egoism is chiefly formal. The orthodox moralist, from Prodicus to Chrysippus, in recommending the preference of Virtue to Pleasure, is substantially recommending the sacrifice of individual inclinations to social claims; and the explicit "communis utilitas nostræ anteponenda" of later Stoicism, (which in this respect forms a transition from the ancient point of view to the modern), is no doubt implicit in the practical teaching of earlier schools. Still the effect of the egoistic form is very clearly seen in the actual course of ethical discussion. It rendered it absolutely necessary for the orthodox moralist to settle the relation of the individual's virtue to his Pleasure and Pain. A modern moralist may leave this undetermined. He cannot of course overlook the paramount influence of pleasure and pain, in the actual determination of human actions; and he must be aware that the obtaining of future pleasure and the avoiding of future pain constitute at least the chief part of the common notion of 'happiness,' 'interest,' 'good on the whole,' or whatever else we call the end which a prudent man, as such, has in view. But he may regard the discussion of this as bearing on the Sanctions of morality, not Morality itself; that is not on the theory of what duty is, but on the practical question how a man is to be made to do his duty. The Greek, however, who regarded the determination of the individual's good as supplying the fundamental principle on which the whole code of rules for reasonable conduct must ultimately depend, was obliged at the outset to consider the popular view that this good was Pleasure. He either, with the Cyrenaics and Epicureans, accepted this view unreservedly, and held Virtue to be valuable merely as a means to the enjoyment of the virtuous agent; or, with Zeno, he rejected it altogether, and maintained the intrinsic valuelessness of pleasure; or with Socrates, Aristotle, and Plato in his soberer moods, he argued the inseparable connection of the best and really pleasantest pleasure with the exercise of

* *cf.* MIND III., p. 341.

virtue. The first position was offensive to the moral consciousness; the third imposed on it the necessity of proving what could never be really proved without either dialectical tricks or assumptions obviously transcending experience; and it was not surprising that the chief part of the moral earnestness of ancient society was ultimately enlisted on the side of the second alternative. Still the inhuman severity of the paradox that 'pleasure and pain are indifferent to the wise man,' never failed to have a repellent effect; and the imaginary rack on which an imaginary sage had to be maintained in perfect happiness, was at any rate a dangerous instrument of dialectical torment for the actual philosopher.

Christianity extricated the moral consciousness from this dilemma between base subserviency and inhuman indifference to the feelings of the moral agent. It compromised the long conflict between Virtue and Pleasure, by transferring to another world the fullest realisation of both; thus enabling orthodox morality to assert itself, as reasonable and natural, without denying the concurrent reasonableness and naturalness of the individual's desire for bliss without alloy. Hence when independent ethical speculation recommences in England after the Middle Ages, we find that the dualism—if I may so say—of the Practical Reason, which Butler afterwards formulated, is really implicit in all the orthodox replies to Hobbes. It is not denied in these replies that man's 'natural good' is pleasure, or that the self-love which seeks the agent's greatest happiness is a rational principle of action; they are only concerned to maintain the independent reasonableness of Conscience, and the objective validity of moral rules derived from a quite other source than the calculations of self-interest. Thus, for example, though in Cumberland's view the ultimate end and rational basis of the moral code is "commune bonum omnium rationalium," the obligation of the code on each individual "rational" is imposed "sub pœna felicitatis amittendæ aut propter spem ejusdem acquirendæ". And even Clarke, who is often thought to have carried his argument for the independence of morality up to the point of paradox, is yet after all found to make only the very moderate claim "that Virtue deserves to be chosen for its own sake, and Vice to be avoided, though a man was sure of his own particular *neither to gain nor lose anything by the practice of either*". But since in the actual world "the practice of vice is accompanied with great temptations, and allurement of pleasure and profit, and the practice of virtue is often attended with great calamity, losses, and sometimes with death itself, this alters the question,"—and, in fact, Clarke is of opinion, not only that men under these circumstances will not always prefer

Virtue to Vice, but also that "it is *not very reasonably to be expected* that they should". Butler, however, was the first to give with perfect precision the *differentia* of what we may call broadly the modern view of Ethics, in stating "reasonable self-love and conscience" as the "*two* chief or superior principles in the nature of man"; whereas it was a fundamental assumption of all the schools of philosophy that sprang from Socrates, that there is *one* naturally "chief or superior principle" in every rational being which impels him to seek his own true good.

It is true that, when any attempt is made to relieve Ethics of its dependence on religion, the old difficulty as to the relation of Virtue to Happiness recurs; but it is no longer in the form of a dispute as to the true nature of the object of rational desire, but rather as the problem of reconciling the desire for one's own Good—good being more or less explicitly understood to be pleasure, enjoyment, satisfaction, agreeable feeling of some kind—with the performance of what reason dictates as Duty. This problem presents itself to most minds as of the very profoundest importance; and I cannot understand how any moralist can turn aside from it, or treat it with indifference. But I quite admit that its solution is not an essential pre-requisite of the construction of a moral code.

On what other principles, then, is this construction to be attempted? It appears to me that on this question there is far more substantial agreement among English moralists than is commonly supposed; and that the fundamental intuitions of conscience or the practical reason on which one school have always laid stress, are merely the expression in different aspects or relations of that ideal subordination of individual impulses to universal ends on which alone Utilitarianism, as a system of ethics, can rationally rest. Thus the essence of Justice or Equity, in so far as it is absolutely obligatory, is that different individuals are not to be treated differently, except on grounds of universal application: which grounds, again, are given in the principle of Rational Benevolence, that sets before each man the good of all others as an object of pursuit no less worthy than his own; while, again, other time-honoured virtues seem to be fitly explained as special manifestations of impartial benevolence under various normal circumstances of human life, or else as habits and dispositions indispensable to the maintenance of rational behaviour under the seductive force of various non-rational impulses. I admit that there are other rules which our common moral sense when first interrogated seems to enunciate as absolutely binding; but I contend that careful and systematic reflection on this very Common Sense, as expressed in the

habitual moral judgments of ordinary men, results in exhibiting the real subordination of these rules to the fundamental principles above given. Then, further, this method of systematising particular virtues and duties receives very strong support from a comparative study of the history of morality; as the variations in the moral code of different societies at different stages correspond, at least generally, to differences in the actual or believed tendencies of certain kinds of conduct to promote the good of society. While, again, the account given by our evolutionists of the pre-historic condition of the moral faculty, which represents it as derived aboriginally from the social instincts, is entirely in harmony with this view. This convergence of several distinct arguments has had, I think, a considerable effect on contemporary thought; and probably a large majority of reflective persons are now prepared to accept 'Common Good' as the ultimate end for which moral rules exist, and the standard by which they are to be co-ordinated and their qualifications and mutual limitations determined.

There remains, no doubt, some difference of view between the converging lines of speculation, as to the whole or community of which the good is to be sought; since from one point of view we should state the end, in Cumberland's phrase, as the "Common Good of Rational or Conscious Beings"; while from another it will be rather the good of the particular race of animals to which we belong. But this difference is easily reduced to latency in the idea of the Good of Humanity, and I do not propose at present to dwell upon it.

But neglecting this, and fixing our attention on the notion of Good, we have to ask whether this is less problematical in the case of humanity generally than Socrates found it to be in the case of the individual man. Have we not, after all, been simply brought round to the point from which ethical speculation started in Europe? If we try to define the Good, how shall we avoid revolving again through the old controversies?

A little reflection will show that we have, at any rate, got rid of one of the competing answers to the old question. We cannot now explain the general Good to consist in general Virtue; that is in the general fulfilment of the prohibitions and prescriptions of Common Sense morality. This would obviously involve us in a logical circle; as we have just settled that the ultimate standard for determining these prohibitions and prescriptions is just this general good.

Thus Pleasure, the other "competitor for the Aristeia," as Plato says, is left without any rival of equally ancient prestige, and in a far better position relatively to ordinary morality. For (1) to regard Virtue merely as a means to the agent's private pleasure

was undoubtedly offensive to the common moral consciousness of mankind. But no similar offence is given by the explanation of the Virtues as various forms and applications of Rational Benevolence, or auxiliary habits (as Courage, Temperance, &c.), necessary to the sustained and effective exercise of Rational Benevolence, amid the various temptations and dangers of human life; while the exercise of Benevolence has always been chiefly understood to mean giving pleasure to others and averting pain from them. And (2) we saw that when Self-love was once clearly distinguished from Conscience, it was naturally understood to mean desire for one's own pleasure; accordingly the interpretation of 'one's own good' which was peculiar in ancient thought to the Cyrenaic and Epicurean heresies, is adopted among the moderns, not only by opponents of independent and intuitive morality from Hobbes to Bentham, but also by the most prominent and approved writers of the Intuitional School. Indeed, to many of these latter it never seems to have occurred that this notion can have any other interpretation.* If, then, when any one hypothetically concentrates his attention on himself, good is naturally and almost inevitably conceived to be pleasure, it does not appear how the good of any number of human beings, however organised into a community, can be essentially different.

This, then, appears to me to be, in outline, the case for modern Utilitarianism or Universalistic Hedonism, as a study of the history of ethical thought presents it to us. I must now notice briefly the rival doctrines as to the nature of Good which seem to be chiefly maintained at the present time. It appears that Hedonism is attacked from two different points of view, which we may, perhaps, without offence, distinguish as Materialistic and Idealistic; each claiming to substitute an objective standard for the subjective criterion of 'amount of agreeable feeling'. I use 'Materialistic' to denote the view which considers individual men and human societies as Organisms, the condition and functioning of which can be ascertained by external observation, and pronounced good or bad without reference to the series of pleasurable or painful feelings which accompany such functioning. We thus seem to obtain a notion of Well-being or Welfare which may be substituted for Happiness as the ultimate end and standard of right action. Perhaps the notion may be more clearly explained by saying that it is obtained by extending to a race or a community of animals the idea of Health, as commonly attributed to an individual man. In an article in MIND, No. I., I mentioned that this view was incidentally adopted by Mr. Darwin in his chapter on the Moral Sense in his *Descent of*

* *Cf.* Stewart, *Philosophy of the Active and Moral Powers*, B. II., c. 1.

Man; and it seems to have been enthusiastically accepted and more fully developed by some of Mr. Darwin's disciples, among whom I may count Mr. Pollock, who replied to my article in No. III. of this journal. I have studied Mr. Pollock's courteous and carefully written answer, and am still unable to see exactly how he deals with the following dilemma. Either this notion of Well-being is entirely resolvable into 'conditions tending to preservation,' or it includes something more. If the latter be admitted, we have to ask what is this something more which distinguishes well-being from mere being. In one place, Mr. Pollock seems to say that it is something at present undefinable: to which I can only answer, in Aristotle's words, that if we cannot get even a proximate definition of it, we shall be "as archers without a mark, rather unlikely to attain the needful". If, however, he falls back on the former alternative, as certainly other writers of his school seem disposed to do, and says that well-being is merely "Being with the promise of future being," he surely comes into irreconcileable conflict with common sense. I do not wish to exaggerate this conflict. I admit that the most important part of the function of morality consists in maintaining habits and sentiments which seem necessary to the continued existence, in full numbers, of a society of human beings under actual circumstances; and that this part may easily be regarded as the whole, if we consider morality merely as a code of restrictive regulations—the aspect which has been most prominent in modern times. But this maintenance of preservative habits and sentiments surely does not exhaust our ideal of good or desirable human life. We are not content with mere Being, however secured in continuance, for ourselves or for those we love or, in so far as we are philanthropists, for humanity generally. What we demand more, may be expressed by the general notion of Culture; and though some part of what is included in this notion may fairly be interpreted as Preservative Tendencies, there is surely much that cannot possibly be so interpreted. If the Hedonistic view of Culture, as consisting in the development of susceptibilities for refined pleasure of various kinds, be rejected, it must be in favour of what I have called the Idealistic view: in which we regard the ideal objects on the realisation of which our most refined pleasures depend—Knowledge, or Beauty in its different forms, or a certain ideal of human relations (whether thought of as Freedom or otherwise)—as constituting in themselves ultimate Good, apart from the pleasures which depend upon their pursuit and attainment. I do not propose at present to criticise this view, chiefly because I am not acquainted with any philosophical exposition of it sufficiently coherent and systematic

to invite criticism; though it seems to be pretty widely accepted among cultivated persons, and more or less definitely suggested in the anti-hedonistic arguments of certain philosophical writers. But it may be well to define clearly the manner in which Hedonism, as I conceive it, deals with this view.

The Hedonistic argument against the assumption of 'objective' ultimate ends, just as that against particular moral rules of absolute validity, seems to me to consist necessarily of two parts. It appeals to the immediate intuition of reflective persons; and secondly to the results of a comprehensive comparison of the ordinary judgments of mankind. The second argument comes in rather by way of confirmation of the first, and obviously cannot be made completely cogent; since, as above stated, several cultivated persons do habitually judge that certain ideal goods are ends independently of the pleasure derived from them. But we may urge not only that all these ideal goods are productive of pleasure in various ways; but also that they seem to obtain the commendation of Common Sense, roughly speaking, in proportion to the degree of this productiveness. This seems obviously true of Beauty; and will hardly be denied in respect of any kind of social ideal, for it is surely paradoxical to maintain that any degree of Freedom, or any form of social order would be desirable even if it tended to impair, instead of promoting, the general happiness. The case of Knowledge is rather more complex; but certainly Common Sense is most impressed with the value of knowledge, when its 'fruitfulness' has been demonstrated. It is, however, aware that experience has frequently shown how knowledge, long fruitless, may become unexpectedly fruitful, and how light may be shed on one part of the field of knowledge from another apparently remote: and even if any particular branch of scientific pursuit could be shown to be devoid of even this indirect utility, it would still deserve some respect on utilitarian grounds; both as furnishing to the enquirer the refined and innocent pleasures of curiosity, and because the intellectual disposition which it exhibits and sustains, is likely on the whole to produce fruitful knowledge. Still in cases approximating to this latter, Common Sense is somewhat disposed to complain of the misdirection of valuable effort; so that the meed of honour commonly paid to Science seems to be graduated, though perhaps unconsciously, by a tolerably exact utilitarian scale. Certainly the moment the legitimacy of any branch of scientific enquiry is seriously disputed, as in the recent case of vivisection, the controversy on both sides is conducted on an avowedly utilitarian basis. Nor does it really make against Hedonism that knowledge and other ideal ends are often most energetically

pursued by persons who do not think of the resulting happiness; if, as experience seems to show, both the concentration of effort needed for success, and the disposition most favourable to enjoyment, are promoted by this limitation of aim. Nor, finally, need the Hedonist be surprised that the enthusiasm of these pursuits should occasionally prompt to the affirmation that their ends are worthy to be chosen *per se*, even if the pursuits should result in a balance of pain over pleasure. He is only concerned to maintain that, when in a mood of calm reflection we distinguish these ideal objects from the feelings inseparably connected with them, it is the quality of these latter which we see to be the ultimate end of rational desire.

This last proposition I do not find exactly denied, in the terms in which I have stated it; but an answer is made to it by some writers, which, if valid at all, is certainly conclusive, though indirect. It is said, for example, by Mr. Green* that "pleasure as feeling, in distinction from its conditions which are not feelings, cannot be conceived"; and therefore, of course, cannot be taken as an end of rational action. Whatever plausibility this argument possesses, seems to depend on that ambiguity in the term 'conceive,' which has caused so much confusion in recent philosophical debate. To adopt an old comparison, Mr. Green's proposition is neither more nor less true than the statement that an angle cannot be 'conceived' apart from its sides. That is, we cannot form the notion of an angle without the notion of sides containing it; but this does not hinder us from apprehending with perfect definiteness the magnitude of any angle as greater, equal, or less than that of any other, without any comparison of the pairs of containing sides. Similarly, we cannot form the notion of any pleasure existing apart from some "conditions which are not feelings"; but we can perfectly well compare a pleasure felt under any given conditions with any other, however otherwise conditioned, and pronounce it equal or unequal; and we surely require no more than this to enable us to take 'amount of pleasure' as our standard for deciding between alternatives of conduct.

Mr. Green, however has another argument against the 'greatest happiness' doctrine, which it will be desirable briefly to notice; especially since it also supplies the heavy artillery in an elaborate attack on Hedonism in Mr. Bradley's *Ethical Studies* (noticed in the last number of this journal). I will give it in Mr. Green's words taken from the passage quoted above:—

* I quote this sentence from Mr. Green's Introduction to the Vol. II. of Hume's *Treatise on Human Nature*, p. 9; but I have found the same argument used in almost the same words by other writers of the same school. *Cf.* (*e.g.*) Prof. Caird in *Academy*, June 12, 1874.

"Happiness 'in its full extent,' as 'the utmost pleasure we are capable of,' is an unreal abstraction, if ever there was one. It is curious that those who are most forward to deny the reality of universals in that sense in which they are the condition of all reality, *viz.*, as relations, should yet, having pronounced these to be mere names, be found ascribing reality to a universal, which cannot, without contradiction, be supposed more than a name. Does this 'happiness in its full extent' mean the 'aggregate of possible enjoyment,' of which modern utilitarians tell us? Such a phrase simply represents the vain attempt to get a definite by addition of indefinites. It has no more meaning than 'the greatest possible quantity of time' would have. Pleasant feelings are not quantities that can be added. Each is over before the next begins, and the man who has been pleased a million times is not really better off—has no more of the supposed chief good in possession—than the man who has only been pleased a thousand times. When we speak of pleasures, then, as forming a possible whole, we cannot mean pleasures as feelings."

We may admit that if any one supposed that his 'greatest happiness' was something that could be possessed all at once, it would be important to explain to him that it was composed of elements which could only be had successively. But I must confess myself quite unable to see how it thereby becomes impossible for him to aim at it. The paradoxical character of Mr. Green's argument cannot be better shown than by taking the very analogy which he selects to enforce it. In what sense is it true that 'greatest possible quantity of time' has no meaning? Since when has it been—not merely wrong but—logically impossible to make prolongation of life an end of voluntary effort? And what is 'length of days,' but 'the greatest possible quantity of time' relatively to the individual looking forward? If it is only meant that we cannot have time by itself, without some filling of time, this is of course true; just as it is true that we cannot have pleasure without the conditions on which it depends. But because Time is an abstraction, it is not therefore unreal, nor incapable of furnishing an end of action; we can aim at living as long as possible, without any regard to the manner of our living; and if we turn out centenarians, we shall commonly be thought to have succeeded in our aim. *A fortiori* we can aim at living as pleasantly as possible, without any regard to the inseparable concomitants of our 'greatest possible happiness.' Mr. Green seems to assume that because the parts of Time, and of whatever has Time for its fundamental form, must exist successively, it is therefore illegitimate to conceive them as parts at all; that a 'happy week,' or a 'miserable month,' is something "which cannot without contradiction be supposed more than a name," merely because we cannot have a happy week all in one moment! Surely this is

as singular a metaphysical whim as ever entered into the head of a scholastic philosopher.

I have selected these two arguments for discussion, because they are of a kind that admits of summary treatment. They are either completely cogent or totally valueless; and it does not require many words to enable the reader to decide which view to take. The case is different with other anti-hedonistic topics, such as the difficulties of estimating the amount of pleasure or pain, comparing the amount of different pleasures, &c. It is, on the one hand, impossible not to allow a certain weight to such objections: on the other hand, they hardly even claim to be decisive; and, in fact, seem rather directed against the practicability of constructing a Hedonistic Calculus, than against the truth of the Hedonistic doctrine as to the nature of Ultimate Good.

H. Sidgwick.

IV.—KANT'S SPACE AND MODERN MATHEMATICS.

The remarkable modern speculations concerning non-Euclidean sorts of space, of which Prof. Helmholtz gave some account in No. III. of Mind, are likely to be hailed as one of the chief difficulties with which the Kantian theory of space will have to deal. "If we can imagine such spaces of other sorts," that learned writer tells us, "it cannot be maintained that the axioms of geometry are necessary consequences of an *a priori* transcendental form of intuition, as Kant thought".

Before attempting to answer this argument, let me briefly point out a fundamental error that appears to hinder many adepts of positive science from realising the true nature of problems belonging to the theory of knowledge, or critical metaphysics.

In our wanderings on the border between science and philosophy we are apt to forget that it is impossible to move on both sides of the boundary line at once, and that whoever crosses it shifts his problem as well as his method. In physics (taking the word in its widest sense) we must adopt a standard of truth, which in philosophy is the very thing to be settled. When a sufficient amount of accurate observation has been digested by correct reasoning, we hold the result to be the adequate expression of real existence. We admit a real world, independent of all appearance to anybody's sense or reason, and take for its exact counterpart the world that offers itself to the *mens sana in corpore sano* after exhausting all the means of research at the command of mankind. Science

has no suspicion of a distinction between 'objectivity' and 'reality'.

Of course the object of science is not altogether the same with that of popular belief. In every-day life we consider as real objects such things as appear to our senses, corrected by reasoning in the rough, as the blue firmament, the earth at rest, &c. In science the real object is what appears to be to the experienced mind attaining the very limit of its powers, and sensible phenomena sink into mere signs of the presence of certain objects. By interpretation of these signs the real object is attained. And if many a theory of the present day will probably be modified by ulterior investigation, still we are moving towards the end of representing the real object as it is.

Yet the real object of science has so much at least in common with that of ordinary life as is wanted for the purposes of measuring and calculation. It retains the space and time, the motion and, to a certain extent, even the matter and force of popular belief. It is not the object of pure thought, evolved from principles presupposed by necessity in every act of thinking, but of thought as applied to data of sense. However simplified by abstraction, it always bears the traces of its sensible origin.

In geometry proper, or constructive geometry (including stereometry), a great many qualities of things are disregarded, while it only attends to the space in which bodies appear to exist and move. But, however shorn of qualities, its object is imagined as something to a certain extent analogous to what we see and touch. Hence its teachings may be assisted by diagrams and models, not mere conventional signs like those of arithmetic or logic. Because it takes from sense-intuition only the very first data, which are the same whatever part of our experience we proceed from, it assumes the aspect of a purely deductive science like arithmetic. Nevertheless its empirical basis may be shown by its inability to construct, for instance, an aggregate of four dimensions. Its real object is that of physics and of common life, considered exclusively as to the metrical proportions of figures imaginable in its space. To demand logical proof for genuine geometrical axioms is a mistake, because every proof must proceed from some ultimate premisses, which in this case must concern space. There are no data about space either in logic or arithmetic, but only in our sense-intuition, and precisely the data expressed in those axioms.

The algebraical geometry of modern science is algebra, a more general form of arithmetic, a series of speculations concerning quantities. Its sole connection with geometry is the understanding that the quantities it considers are meant as

quantities of geometrical data; but this understanding is not embodied in the algebraical symbols themselves. As we learn from Prof. Helmholtz (*l.c.* p. 309), time as well as a line may be regarded here as an aggregate of one dimension, and the system of colours as an aggregate of three dimensions. The formulæ and their analysis remain the same whether the aggregates be assumed to be spatial ones or of a different nature. Hence it is possible to pursue the chain of inference far beyond the limits of any geometrical interpretation, and even, by varying the premisses in which we express certain geometrical data, to prepare formulæ that would apply to spaces foreign to our experience, provided any such could be conceived by the human imagination. The proof in this case is entirely logical: supposing certain relations of quantities, certain other relations must be admitted also, or there would be an end to all our thinking. However, the link between such a system of inferences and its application to qualities of either objective or assumed space is not comprehended in the system itself, but supplied from without, and it remains to be seen how much of the algebraical system will bear translation into geometry.

Now, when we aim at a theory of knowledge and enter into discussion with such thinkers as Berkeley, Hume or Kant, we find ourselves on a ground quite different from that of either physics or geometry. The notions of 'objectivity' and 'reality,' hitherto equivalent, must be carefully kept asunder, or else it becomes impossible even to understand the questions at issue. We must be prepared to examine opinions like these: that there is nothing real except mind, whereas space and bodies are merely its object; or that besides mind there is a reality, impressing it so as to produce an object wholly dissimilar from the reality itself. Again, if admitting impressions from without, we may have to enquire in how far the object is dependent on these and on the constitution of the mind respectively. If it were established beyond all doubt that the 'object' and the 'real' are one and the same, all examination of such questions and theories would become an empty ceremony, and the paradoxes of Idealism absurdities unworthy of our notice. But as things are now, results of scientific research involving that assumption cannot be rightly employed as evidence against philosophical tenets that disclaim its validity.

For a scientific man fresh from physiology of the senses, it is hard to keep in mind that the perceiving, imagining and thinking 'subject' of philosophy is not altogether the same as that with which he had to deal in his former pursuits. There he considered it as a unity of body and mind, one of a class of objects in the world we observe. Here it is nothing more than

the correlative of every object whatever, the observer and thinker opposed to them all. Unaccustomed to this kind of abstraction, the student of nature speedily rounds it off into the full *anthropos* of physiology, not being aware that he has crossed the fatal border; and much of the reasoning current in his own domain is no longer acceptable as lawful tender.

From geometry proper, there is an easy transit into metaphysics, by the road of analytical geometry, which science has but a conventional connection with the data of intuition, and merges into pure arithmetic. In order to determine the relations between construction and analysis, some will attempt to reduce the latter to an abstraction from the sensible object like geometry, while others try to explain the foundations of geometry as necessities of thought unassisted by the senses. Both theories belong to the province of Philosophy; but from the familiar intercourse between mathematics and natural science, it is evident that Science has a great chance of being called in as arbiter and usurping the office without suspicion.

In the present case, the first question is whether any sort of space besides the space of Euclid be capable of being imagined. More than three dimensions, it is allowed, we are quite unable to represent. But we are told of spherical and pseudospherical space, and non-Euclideans exert all their powers to legitimate these as space by making them imaginable. We do not find that they succeed in this, unless the notion of imaginability be stretched far beyond what Kantians and others understand by the word. To be sure, it is easy to imagine a spherical surface as a construction in Euclid's space; but we vainly attempt to get an intuition of a solid standing in the same relation to that surface as our own solids stand to the plane. A pseudospherical surface we may imagine; but then it is bounded by one or two edges. Nor is it of any avail to draw (as we are told) a piece from the edge back to the middle, and then continue it. This very operation betrays that the continuity of such a surface beyond the edge is not imaginable. We may cloak our perplexity by special phrases, saying that only limited strips of the surface can be "connectedly represented in our space," while it may yet be "thought of as infinitely continued in all directions". The former is just what is commonly understood by being 'imagined,' whereas being 'thought of' does not imply imagination any more than in the case of, say, $\sqrt{-1}$. And when we are assured that Beltrami has rendered relations in pseudospherical space of three dimensions imaginable by a process which substitutes straight lines for curves, planes for curved surfaces, and points on the surface of a finite sphere for

infinitely distant points, we might as well believe that a cone is rendered sufficiently imaginable to a pupil by merely showing its projection upon a plane as a circle or a triangle. Just the characteristic features of the thing we are to imagine must be done away with, and all we are able to grasp with our intuition is a translation of that thing into something else. As to the image in a convex mirror, referred to by Prof. Helmholtz in his article, we do not mentally contrast it with our objective world in Euclidean space, but only with the habitual aspect of that world as seen from a given point of view. In the latter also things appear to contract as they retire to a distance. Only we have learned to conceive the objective space as one in which we ourselves are able to move in all directions and shift our point of view at pleasure. So with some practice we actually see those things not growing smaller, but moving away from the place where we may happen to be. The world in the mirror offers itself as a novel aspect of the same world, needing a larger amount of practice for its interpretation, because complicated by unwonted circumstances. As a form of the objective world, which remains the same from whatever point we inspect it, we can imagine, not any space in which motion implies flattening or change of form of any kind, but only the space known from our sense-experience, the space of Euclid. All other 'space' contrived by human ingenuity may be an aggregate with fictitious properties and a consistent algebraical analysis of its own, but space it is called only by courtesy.

Even admitting for a moment that our mind is capable of *imagining* different sorts of space, it might still be maintained that the only possible form of *actual intuition* for a mind like ours, as affected by real things outside of it, is Euclidean space. When we hold the origin of our geometrical axioms to be empirical, it does not follow that a real space must be assumed as being transported in some way through organs of sense into the percipient mind. Of experience itself there are different explanations, as far as explanations go. Granted that I take my 'flat space' from my perceptions, and these are forced upon me by something not myself, variety of perceptions ought to originate in a variety of outward impulses. But then perception may be, for aught I know, wholly dissimilar in nature from both the impulse and that which produced the impulse, as the perception of red or blue is believed to be the effect of certain undulations in the optic nerve, produced in their turn by the waves termed light, and yet not to be compared with either. Our intuition of space may be empirical without a real space to correspond, provided there be any reality whatever compelling the

mind to exert its native powers in constructing space as we know it, which the mind would not do unless so compelled. In that case space, Euclid's space, would remain a form of intuition, *a priori* and transcendental.

We read that "geometrical axioms must vary according to the kind of space *inhabited*". Why this must be, one cannot understand, unless it be proved first, which is not proved at all, that space as represented by a sentient being is necessarily a copy of a space in which it lives and moves. Even if we suppose that the subject resides in a real space, and that its intuitions of space depend entirely on what it *perceives*, the question remains, how much of its perception is due to the constitution of the subject itself, and how much to impressions from the outer world? Also, what is the relation between those impressions and the spatial arrangement of that world? The space represented on the faith of perception might yet be different from the real space. Nay, on the popular empirical ground taken by physiology, the proposition is a disputable one. Dr. Mises (Prof. Fechner), in one of his witty paradoxes of thirty years ago, reprinted last year in his *Kleine Schriften*, supposed reasoning beings of two dimensions only, like the men we see in the *camera obscura*, who move together with the plane which they inhabit through a third dimension, and perceive that movement only as a continued series of changes in their superficial universe. By analogy he started the hypothesis of a fourth dimension through which we might be moving ourselves. Now we know that analytical geometry is ready to grapple with any number of dimensions,* though they can never be imagined. These plane-people of Mises are quite as imaginable as the sphere-dwellers of Prof. Helmholtz. They would really exist in a space of three dimensions, inhabiting two of them and moving through the third, yet perceiving but two of them as dimensions. So would the sphere-dwellers; for the surface of a sphere means either nothing at all, or the boundary of a solid of three dimensions. Only in their case the third dimension would influence their intuition by preventing them, for instance, from ever gathering experience of parallel lines and geometrical similarity between figures of different size.† However, as our mathematicians succeed in explaining properties of spaces unknown to our experience, even of those of four and

* *Cf.* the *Ausdehnungslehre* of Hermann Grassmann.

† Unless, indeed, they were small enough to perceive only a very limited portion of their surface, which might easily impress them as flat, as our earth did the first Greek philosophers. We need not stop to inquire whether we ourselves ever get sense-experience of undoubtedly parallel lines. Nevertheless such are constructible out of primary elements supplied by sense-intuition.

more dimensions, there is no reason to deny the same faculty to our imaginary surface-men. As all straightest lines on a sphere end by meeting somewhere, why should they not for once suppose a different surface, on which straightest lines might be drawn in any direction so as to retain the same distance to infinity, and, reasoning on this and a few more suppositions, discover the analytical geometry of the plane? Combining this with their original spherical theorems, some genius among them might conceive the bold hypothesis of a third dimension, and demonstrate that actual observations are perfectly explained by it. Henceforth there would be a double set of geometrical axioms; one the same as ours, belonging to science, and another resulting from experience in a spherical surface only, belonging to daily life. The latter would express the 'object' of sense-intuition; the former, 'reality,' incapable of being represented in empirical space, but perfectly capable of being thought of and admitted by the learned as real, albeit different from the space inhabited.

The 'rigidity' ascribed to geometrical figures is hardly to be considered as a physical quality. A physical solid, say an india-rubber ball, may be thought of as being flattened to a spheroid or a disc, and still retain its identity, because the matter remains the same. It would be perfectly rigid in a physical sense, if its form were unchangeable by any external force whatever. But a geometrical sphere is the same only as long as both its form and size remain what they are. The rigidity is not resistance against force, but simple identity with itself. We might conceive a spheroid of the same volume, and an unbroken series of spheroids between it and the sphere; so by analogy with the physical body we might say that the sphere was gradually flattened to the ultimate form in the series. Still in the geometrical sense there would be no identity between the sphere and any of the spheroids, because here matter is wanting, but only a successive substitution of something else instead of the primitive figure. If we apply one sphere to another, and find out their congruence or the reverse, the meaning is not that a physically rigid body is to be transported through all the intervening parts of space. The purpose is answered as well by mentally cancelling the old sphere, and constructing a new one on the same principle and with the same radius, so that its centre coincide with that of the sphere to be compared with it. In the case of mechanical science deciding that two bodies must have varied in the same sense during such an operation, the inference would be that the consequences of geometrical application of figures to each other can never be verified by actual experience on physical bodies for that reason, to say

nothing of their impenetrability. But geometry would declare bodies liable to vary, to be different from its own solids. Of course, its own abstract notions of space and figure may be supplemented at pleasure by taking into account time of movement, or a concept of matter just sufficient to distinguish a filled part of space from an empty one. In the former case we come to phoronomy, in the latter to mixed geometrical speculations about bodies capable of contractions and distensions. Such speculations are as lawful as what most people understand by geometry, and it appears that physicists find them useful for their ulterior purposes. Only they must not be confounded with the doctrine of space and its measures, in which a solid is simply a part of space of a certain form and size, a surface the boundary between such parts and so on. These parts of space it would be absurd to consider as changeable, whatever experience may affirm concerning physical bodies that move in space. It is certainly true in one sense, that the axioms of geometry "merely define what qualities and deportment a body must have to be recognised as rigid". But this regards geometry as applicable to bodies or material things; its own solids are not meant either to have or to lack physical rigidity.

Nevertheless geometrical axioms are synthetic propositions, because they are not to be deduced by pure logic from the definition of their subject-terms, but are found by intuition of the space offered to us as a form of our objective world. As far as we know, that world and its space could be quite different from what they are, were it not for sense-experience which supplies the first elements of construction, and reflection which constructs figures and examines them as if actually seen. The axioms of geometry proper are discoveries resulting from the contemplation of objective space by itself; as soon as we add the empirical elements of movement, properly so called, of bodies filling space, &c., we stand upon another ground.

To conclude these observations, the Kantian theory of space, as defined by Prof. Helmholtz himself, contains three distinct assertions :—

(*a.*) Space is a form of *intuition:* any conception of ours must be imaginable to be what we call space. [This is admitted by the opponents; only non-Euclideans try to make imaginable that which is not so in the sense required for argumentation in this case.]

(*b.*) Space is a form *a priori:* a native form of our perceptive faculty, not a datum passively received from without. [The opponents attempt to refute this by proving the empirical origin of our notions of space. Between this proof and the refutation

of Kant's assertion there is wanting the proof that empirical knowledge is acquired by simple importation or by counterfeit, and not by peculiar operations of the mind solicited by varied impulses from an unknown reality.]

(*c.*) Space is a *transcendental* form: belonging to our own object by some necessity arising from the unknown constitution of our mind; but not therefore belonging to the real world as well. [The opponents overlook the distinction between 'objectivity' and 'reality,' and reason, as they would do in physical science, on the tacit supposition of the two being identical, and Kant's assertion disproved beforehand.]

After this, the final propositions of the article in question would have to be modified as follows:—

(1.) The axioms of geometry, taken by themselves out of all connection with mechanical propositions, represent no relations of physical objects. When strictly isolated, if we regard them with Kant as forms of intuition transcendentally given, they contribute a form into which any empirical content whatever will fit, and which therefore does not in any way limit or determine beforehand the nature of that content. In other words, axioms concerning parts of space do not determine the deportment of bodies filling such parts at a given moment. We may admit that this would hold true if the axioms given were those of spherical or pseudospherical geometry; however, the (possibly transcendental) form of intuition actually given is that analysed in Euclid's axioms.

(2.) As soon as certain principles of mechanics are conjoined with the axioms of geometry, we obtain a system of propositions which has full objective or physical import, and which can be verified or overturned by fresh sense-observations, as from sense-experience it can be inferred. If such a system were to be taken as a transcendental form of intuition and thought, there must be assumed a constancy of laws determining the relations between the mind's objects and the impulses which it receives from an unknown reality.

J. P. N. Land.

Leyden, *Sept. 30, 1876.*

V.—FUNDAMENTAL LOGIC.

At least three distinct views are possible of the relation between logic and mathematics. Mathematics may be regarded as a special application of logic; or logic may be regarded as a branch of mathematics*; or the two may be regarded as co-ordinate sciences.

I regard the ordinary logic as a co-ordinate science with mathematics: but I further maintain that the ordinary logic on the one hand, and mathematics on the other, are two separate developments of a simpler logic than any which has been usually recognised.

It appears to be admitted by all, that the fundamental relation in mathematics is equality; and it appears to be generally thought that the fundamental relation corresponding to this in the ordinary logic is identity. I dispute this latter position. I maintain that the fundamental relation of the ordinary logic is not identity, but co-existence. But mathematics, or the logic of equality, and the ordinary logic, or the logic of co-existence, both rest on the simplest and most elementary logic, which is that of identity.

John Stuart Mill is the only writer known to me who has clearly seen that the ordinary logic rests not on identity but on co-existence. His system is, in substance, an application of the principles of the ordinary logic to the actual work of discovery and proof; and, seeing that the axioms of identity and contradiction are by themselves able to carry the reasoner but a little way, he proposes as the canon of his logic the axiom that "things which co-exist with the same thing co-exist with each other". His treatment of formal logic is, however, unsatisfactory, or at least incomplete, and I must say a few words in defence of the position that the syllogistic reasoning of the ordinary logic really depends on this axiom.

The relations with which the ordinary logic deals are those of the inclusion of one class in another, and of individuals in classes; and when it is reconstructed by treating propositions as equations, the relations with which it deals are those of the total or partial identity of classes.

For my present purpose it will be best to instance a case of

* Mr. Venn, in his very lucid exposition of Boole's Logical System in Mind No. IV., says (p. 480):—"The prevalent notion about Boole probably is, that he regarded Logic as a branch of Mathematics; that, in fact, he simply applied mathematical rules to logical problems. This is a very natural mistake." If it is a mistake, Boole is himself answerable for it. The full-length title of his great work is *An Investigation of the Laws of Thought, on which are founded the mathematical theories of Logic and Probabilities.*

total identity. In the ordinary logic, as modified by 'quantifying the predicate,' the following would be regarded as a proposition of total identity:—"The things having inertia are the same as the things having gravity." But it may be much better stated as a proposition of co-existence, thus:—"Inertia and gravity always co-exist." I do not lay any stress on the evident truth that the latter mode of expression appears much more natural; but I say that the proposition, though it may with perfect accuracy be stated as one of identity, is essentially and primarily one of co-existence. Inertia is in no sense identical with gravity.

All propositions asserting the inclusion of one class within another, may in like manner be shown to be really propositions asserting co-existence. Thus the proposition, "Chlorine is an imperfect gas," according to the view of the ordinary logic, asserts that "The species chlorine is included in the class of imperfect gases". But if we make no postulate as to the existence of such a class, and state the proposition in its utmost possible simplicity, it becomes the following:—"With the differentia of chlorine (consisting in its colour and its chemical reactions) the (physical) properties of an imperfect gas co-exist."

In Boole's and Jevons's logical systems, propositions are written as mathematical equations, and the co-existence of qualities is symbolised by the combination of terms. If we call inertia x and gravity y, the identity of the things having inertia and those having gravity is asserted by the equation, $x = y$: but if we interpret x and y to mean, not the things having the qualities, but the qualities themselves, then the copula $=$ will mean not identity but co-existence, and the equation will assert the invariable co-existence of the qualities.

In Jevons's notation,* which for its purpose appears absolutely perfect, if x means chlorine and y an imperfect gas, then the equation $x = xy$ asserts that chlorine is an imperfect gas. If, further, z means freely soluble in water, the equation $y = yz$ asserts that imperfect gases are freely soluble in water; and the syllogism whereby, from these two premisses, we infer that chlorine is freely soluble in water, is expressed as follows:— $x = xy$; $y = yz$; therefore, $x = xyz = xz$.

Boole appears to recognise the existence of no simpler logic than that of co-existence, for he begins his system by stating the laws of the combination of terms. He uses 1 as the symbol for "all," and $1 - x$ is consequently his expression for whatever is

* See his *Principles of Science*. Jevons, however, uses the capitals A, B, and C, where I follow Boole in using the small italics x, y, and z. I prefer to make logical equations look as like mathematical ones as possible.

not-x. In logic, as in mathematics, the equation $1x = x$ is thus true of all values of x. He places at the commencement of his system the two following equations, which are his expressions of the laws of identity and contradiction: $x^2 = x$, and $x(1 - x) = 0$. The first of these asserts that, if a term be combined with itself, the result is the same as if it remained uncombined:—thus, "heavy, heavy things" are the same as "heavy things". The second asserts that a term and its negative cannot be combined:—thus, things which are at once heavy and not heavy cannot exist. These two equations, which in logic are true of all terms whatever, are in mathematics true only of terms having the values of 1 and 0.

Boole (*Laws of Thought*, pp. 49, 50) calls attention to the fact, that these equations, expressing the fundamental laws of thought, are equations of the second degree. This is so surprising a result, that it ought to excite a suspicion, not indeed of the accuracy of Boole's expression of these laws, but of the truth of the assumption that they are what is simplest and most elementary in logic. I maintain that there is a more elementary logic than Boole's: a logic in which there are no combined terms, and consequently no equations except those of the first degree; no operations except addition and subtraction; no interpretation of the copula except simple identity; and of which the axioms are true not only in logic but in mathematics.

In what follows I must request the reader to bear in mind that the word identity is used in the sense not only of total but of partial identity, so as to include the relation of a part to the whole.

When expressed in language, the propositions and syllogisms of the logic of identity are similar in form to those of the old logic. The old logic deals chiefly with such cases as the inclusion of class within class; but the same or similar forms will express the inclusion of a part in the whole, or of a constituent in the compound. The following are examples:—"The anther is a part of the flower; the flower is a part of the tree; therefore, the anther is a part of the tree." "Hydrogen is a constituent of water; water is a constituent of albumen; therefore, hydrogen is a constituent of albumen." It may be thought that the distinction between propositions of co-existence and of identity is one of interpretation only, and does not belong to formal logic; and in fact this distinction, so far as I am aware, has not been seen till now;—the purpose of this paper is to insist on it. In proof of the really logical nature of the distinction, it is to be observed that, though propositions of co-existence may no doubt be stated as propositions of identity, the converse is not true—propositions of identity cannot be stated as propo-

sitions of co-existence. The two syllogisms last stated have propositions of partial identity for their premisses and their conclusions, and none of these can be stated as propositions of co-existence; and the forms of proposition and syllogism by which, as we have seen, Jevons so admirably expresses the logic of co-existence, cannot, without an unwarrantable strain on their meaning, be made to express the logic of simple identity.

There is another peculiarity of the logic of co-existence which confirms me in the belief that it is fundamentally distinct from that of mere identity. Sir William Hamilton has shown, though I believe he was not the first to discover, the double interpretation, in extension and in comprehension (or intension), which the terms of the ordinary logic admit of. The extension and the comprehension of the meaning of terms, or, in other words, the denotation and the connotation of class-names, vary inversely as each other—that is to say, the number of species included in a class is greater as the number of attributes connoted by the name of the class is less. Thus, if the syllogism above-stated respecting chlorine is interpreted in extension, its meaning will be:—"Chlorine is one of the class of imperfect gases; imperfect gases are part of the class of substances freely soluble in water; therefore,chlorine is one of the class of substances freely soluble in water." But if interpreted in comprehension, its meaning will be:—"The properties of chlorine include those of imperfect gases; the properties of imperfect gases include those of substances freely soluble in water; therefore, the properties of chlorine include those of substances freely soluble in water."

When we interpret terms and propositions in comprehension, we are really treating them as belonging to the logic of co-existence; when we interpret them in extension, we are treating them as belonging to the logic of identity.

Now, in the logic of identity, no interpretation in comprehension is possible; its terms and propositions are interpretable in extension only. This will be made evident by referring to either of the two syllogisms already given as examples of that logic.

Moreover, in propositions asserting the inclusion of class within class, which I regard as really propositions of co-existence, we have seen that the more species a name denotes, the fewer attributes it connotes. But this is reversed in propositions asserting the inclusion of a part in the whole, which I regard as really propositions of mere identity;—the name of the whole connotes more attributes than the name of the part. The tree has a greater variety of attributes than the anther, and the compound than the element.

The distinctness of the logic of co-existence from that of identity seems to be proved by these two closely-connected facts, that propositions of co-existence may be stated as propositions of identity, but not the converse; and that propositions of co-existence may be interpreted either in extension or in comprehension, but propositions of identity can be interpreted in extension only.

It has not, I think, been sufficiently noticed, that propositions are possible respecting a class which do not make any assertion respecting the members of the class. For instance: —Insects are the largest class of animals—Birds are the most sharply defined class of animals.

The laws of identity and contradiction are fundamental in logic, and, so far as they can be expressed without combined terms, they may be expressed by the equations $x = x$; and $x - x = 0$. To these it has been usual to add, as a third and co-ordinate law, that of excluded middle, or, to use Jevons's much better phrase, the law of duality. This law, as generally stated, is that every thing must either possess or not possess any given property; but this statement belongs to the logic of co-existence; in the logic of identity its statement is, that any total of which x is a part consists of the sum of x and not-x; and, 1 being the symbol for "all," it may be expressed by the equation $1 = x + (1 - x)$. When thus stated, it is seen to be not a co-ordinate law with the two preceding, but a corollary from them. This, I think, agrees with Boole's view.

There are, however, two other laws which appear to be co-ordinate axioms with those of identity and contradiction. One is that two negatives form an affirmative or positive:—this law may be expressed by the equation $-(-x) = x$, or what is perhaps a better expression, as not suggesting that a negative term can have any independent meaning, $x - (y - z) = x - y + z$. The other is the law that the order in which addition takes place is indifferent:—it may be expressed by the equation $(x + y) + z = (y + z) + x$. This is the form of the equations of chemical transformation, as will be seen if y is taken to mean oxygen and x and z two oxidisable substances. Such equations really belong to the logic of identity, assuming, however, the physical truths that matter can neither be created nor destroyed, and that every compound may be resolved back into its elements.

Perhaps we ought to enumerate yet another law, to the effect that an equation may be read either way, so that, if $x = y$, it is equally true that $y = x$. It is not unlikely, however, that the statement here made of the laws of the logic of identity may be found to admit of improvement.

It will be observed that all these laws are true, not only in the logic of identity, but also in the logic of co-existence and of equality, that is to say in the ordinary logic and in mathematics.

It is worth while to show that a complete though very simple symbolic method is possible in the logic of identity, without any combination of terms, and with no operations except addition and subtraction.

I propose to express the proposition "all x is y," or "x is a part of y," by the equation $x = y - p$, p being so much of y as is not x:—and the parallel expression for "no x is y" is $x = (1 - y) - p = 1 - y - p$.

We will speak first of conversion. The problem of logical conversion may be thus stated in its utmost possible generality: —Having described x in terms of y, to describe y in terms of x. The affirmative proposition "all x is y," or $x = y - p$, is converted by simply transposing p, when it becomes $x + p = y$. The negative proposition, "no x is y," or $x = 1 - y - p$, is converted by subtracting both sides of the equation from unity and transposing p, when we get $1 - x - p = y$.

The forms of syllogism may be expressed with equal facility. An ordinary syllogism will read thus: $x = y - p$; $y = z - q$; therefore, $x = z - q - p$: or, by transposing p and q, $x + p = y$; $y + q = z$; therefore, $x + p + q = z$.

If we assign to these symbols the same meaning that we assigned when speaking of interpretation in comprehension, this syllogism will mean, "Chlorine is one of the class of imperfect gases; imperfect gases are part of the class of substances freely soluble in water; therefore, chlorine is one of the class of substances freely soluble in water":—

Chlorine	$= x = x$
Imperfect gases	$= y = x + p.$
Substances freely soluble in water	$= z = x + p + q.$

But if we interpret the same syllogism in comprehension, and use Jevons's notation accordingly, as explained above, then

Chlorine	$= x = xyz$
Imperfect gases	$= y = yz$
Substances freely soluble in water	$= z = z$

The increasing number of letters in the one notation shows the increased magnitude of the classes, while the decreasing number of letters in the other shows the decreased number of attributes in their description:—thus, we may almost say, showing to the eye how extension and comprehension vary inversely as each other.

We have now to see how the transition is made from the logic of identity to the ordinary logic and to mathematics.

A glance at the algebraic form of syllogism given above for the logic of identity, will show its canon to be that things identical with the same thing are identical with each other: or, in other words, that identical terms may be substituted for each other. This is not a distinct axiom, but an immediate corollary of the principle of identity. The axioms that things which are equal to the same thing are equal to each other, and that things which co-exist with the same thing co-exist with each other, are also corollaries from the same. In order to make this clear, we have to state the following definitions:—(1) Similars are things concerning which the same predications can be made; in other words, similars are things whereof the symbols may be substituted for each other.* (2) Equality is similarity of magnitude. (3) Co-existence is identity of position either in space or in time.

From these definitions, the truth of the reasoning $x = y$; $y = z$; therefore, $x = z$, follows without any other axiom being needed than that of identity; and this is equally true, whether the copula $=$ is taken to mean identity, co-existence, or equality. The only distinction between the subject-matter of logic and that of mathematics appears to be that the copula, which in mathematics means equality, in logic means either identity or co-existence.

In the notation which I have proposed for the logic of identity, we have seen that there are no operations except addition and subtraction, and these have exactly the same meaning as in mathematics. But in the logic of co-existence there is another operation on the symbols, namely combination, symbolising the co-existence of qualities, to which there is nothing in mathematics precisely analogous. This appears to support the view that the logic of identity is the fundamental logic.

The following are the principal points which I have endeavoured to bring out in this paper.

The ordinary logic is not primarily a logic of identity, but of co-existence; but the logic of co-existence and mathematics, which is the logic of equality, rest on a more elementary logic of identity.

In this logic there is no combination of terms, and no operation except addition and subtraction.

The axioms of this logic are true also in the logic of co-existence and in mathematics. The fundamental axioms of Boole's logic of co-existence, $x^2 = x$, and $x\,(1-x) = 0$, are on

* See Jevons's *Substitution of Similars*. He states the definition, however, as an axiom, that "what is true of a thing is true of its like".

the contrary inapplicable to the logic of identity, and are not generally true in mathematics.

Propositions of co-existence may be reduced to the form of propositions of identity, but the converse is not true.

The terms and propositions of the logic of co-existence may be interpreted in either extension or comprehension, but those of the logic of identity in extension only.

I have, in conclusion, to make a few remarks on the "logic of relatives". This will probably be found to be an extension of the logic of co-existence. The combination of logical terms, symbolising co-existence, is analogous, though not closely so, to the combination of mathematical terms, symbolising multiplication; at least such an analogy is implied throughout Boole's system. It will probably be found that the relation of x to y in logic may be appropriately symbolised by $\frac{x}{y}$; and that relation in logic is to ratio in mathematics, what co-existence in logic is to multiplication in mathematics.

We have seen that in Boole's system 1 is the symbol for "all," or "universe"; so that the equation $1x = x$ is true in logic, as in mathematics, for all values of x. The equation $\frac{x}{1} = x$ is also true in mathematics for all values of x. Is it so in logic? and if so, what is its interpretation? I venture to suggest that it is true in logic, and that it is the logical expression of the truth of the relativity of knowledge—that is to say, as I understand it, the truth that only relations can be the objects of knowledge. If relation in logic is analogous to ratio in mathematics, the expression $\frac{x}{1}$ means the relation of x to the universe, and the equation in question means that, for all purposes of knowledge, a thing is identical with its relation to the universe; including, as part of the universe, the mind which knows the relation.

Another indication of the same or a kindred truth is afforded by the fact, that the same symbol may either be interpreted in comprehension to mean a quality, or in extension to mean the things having the quality. This may be regarded as an expression of the truth, that for all purposes of knowledge a thing is identical with the sum total of its qualities.

I make these suggestions with much diffidence, and the more so because I am inclined to dread mixing up metaphysics with logic; nevertheless, I think them worth making.

It will be perceived that I adhere to the doctrine of the "quantification of the predicate"; and I have to add, that I

regard the science of logic as primarily conversant neither with names nor with concepts, but with things. This view of the subject of logical science is the justification I offer for what will to some appear an illegitimate treatment of the inclusion of a part in the whole as a similar though not identical case to the inclusion of a species in the class.

It is in my opinion a profound error to think that logic depends on psychology. It is a misleading expression to call the laws of logic the laws of thought. No doubt they are so, but only in the same sense in which any truths whereof the contrary is unthinkable may be called laws of thought. The laws of logic, unlike the laws of the association of ideas, do not depend on the structure of the mind—they are laws of thought because they are laws of the universe.

JOSEPH JOHN MURPHY.

VI.—LORD AMBERLEY'S METAPHYSICS.*

THE only portion of the late Lord Amberley's *Analysis of Religious Belief* which is of special interest to the student of philosophy, is the Second Book, which treats of "The Religious Sentiment Itself". This occupies little more than a hundred pages of the thousand or so of which the work is composed; and all that is of peculiar value in it might have been compressed within narrower limits. A few pages will be sufficient to show what it amounts to, and what is its significance for us at the present time. I do not express any opinion upon the value of his collection of data. It is sufficiently complete to supply a basis for the analysis of the religious sentiment into its "ultimate elements," though it may be that it was scarcely needed for that purpose. The "ultimate elements" which Lord Amberley finds are the components of the religious sentiment may be discovered by every individual for himself, if he will only question his consciousness when turned upon religion.

Lord Amberley, as the result of his elaborate investigations, finds that all religions have certain features in common. They are all concerned with consecrated actions and consecrated places, and nearly all have to do with consecrated persons and a consecrated class. These are assumed to be the means, or media, through which man communicates with God. But as religions also imply that God addresses man, there are means

* *An Analysis of Religious Belief*, by Viscount AMBERLEY, 2 vols., 1876. Trübner & Co.

of communication "downwards" as well as "upwards"; and the Deity makes Himself known by means of holy events, holy places, holy objects, a holy class (who perform the ceremonies of religion with peculiar efficacy), holy men (who have authority to teach infallible truth), and holy books, written by persons inspired to write as He desires them to do. Now, although the fact that rival religions exhibit the same phenomena may be used as an argument to prove that they are all false equally, since they may be said to cancel each other, yet comparative religion suggests to us another procedure. Since everywhere, at all times, there is the manifestation, under however great variety of forms, of the religious sentiment, must there not be an element of truth in what is thus the universal possession of man? Is there, amid the variety of religions, any universal faith? and if there be, does it indicate any objective reality corresponding with itself, or is it merely a phantom—the play of our misleading imaginations? This is the philosophical question Lord Amberley deals with. He finds three fundamental postulates in the religious idea:—"First, that of a hyperphysical power in the universe; secondly, that of a hyperphysical entity in man; thirdly, that of a relation between the two," or, expressed in other terms, the objective and the subjective elements in religion, and their co-relation; and he examines these to ascertain whether they are "a necessary and therefore permanent portion of our mental furniture," and, if they are, whether we must conclude that they indicate more than their existence in the human mind—whether they point to a reality which is outside and independent of man.

So far as we have gone, there seems no necessity in analysing the religious idea for any wide induction of religious phenomena; for the idea is present to every one. The foundations so laboriously dug by Lord Amberley are certainly not essential as a propædeutic to an analysis of the religious idea into the ultimate elements of an objective cosmic cause, a subjective spiritual entity, and the co-relation of these two factors. There is a great work waiting to be done in comparative religion, and Lord Amberley's example may prove useful in leading the way; but if it is to accomplish anything of importance, it must be undertaken for wider ends than to furnish the materials for an analysis that may be as effectively performed without them. Under "The Objective Element," indeed, Lord Amberley recapitulates what he had said in the body of the work regarding the conceptions of Deity entertained by different races at different periods, and finds that, with the lapse of time and the progress of the human race, man's conception of God has become more spiritual and more humane. This fact, which is

testified to by the history of Christianity in the idea of the successive ages or dispensations of the three Persons of the Trinity, might have supplied food for reflection; but all Lord Amberley takes out of his historical survey is—"that religion everywhere contains, as its most essential ingredient, the conception of an unknown power". This power is not perceived by the senses, nor can its nature be defined by the intellect, which only acts through comparison and classification; must we then accept it as a real existence, or is it a figment of the human brain?

To help in answering this question, which raises the point of the validity of our mental deliverances, Lord Amberley enters on a brief examination of the various theories of the universe, held by different classes of thinkers. Without the conception of some power as an objective reality, it is hard to see how there can be any consistent and stable idea of anything. The various points of view may be generally classified as Realism and Idealism, and the former may be distinguished into Crude and Metaphysical Realism, whilst we divide the latter into Moderate and Extreme Idealism. Lord Amberley accepts entirely no one of these views, but attributes to each of them a certain element of truth. The outcome of his examination is that there is an unknown Power, Origin, or Cause, external to us—the same conclusion as we are shut up to in dealing with Religion. "Philosophy or Reasoned Thought," says Lord Amberley, "and Science or Reasoned Observation, have both led us to admit, as a fundamental principle, the necessary existence of an unknown, inconceivable, and omnipresent Power, whose operations are ever in progress before our eyes, but whose nature is, and can never cease to be, an impenetrable mystery. And this is the cardinal truth of all religion. From all sides, then, by every mode of contemplation, we are forced upon the same irresistible conclusion." Of course we have not transcended the subjective sphere; for we have only found that the belief in this objective cause is necessary to us—that is to say, that we cannot help believing it; and if our minds are records of stages of illusion (as Von Hartmann has maintained), it may have none but this subjective existence. Lord Amberley will not listen to this conclusion. He believes in the objective reality of what is subjectively affirmed to be necessary, and he does so on the old grounds held by those who tested necessary truths by their necessity and universality. He claims that the fundamental postulate of religion is true, because wherever human intelligence has reached the stage above the lowest savagery, it always does, and cannot but (owing to the conditions of thought) take possession of the mind; and that whenever it has done

so, it retains its place for ever. "It persists, in spite of every attempt to do without it, and the highest philosophy is compelled to give it the place of honour in the forefront of its teaching." But all words or terms by which we seek to designate this ultimate reality are only symbols, and though with the progress of the human race the symbolism has become more comprehensive, it remains symbolism still.

"Name ist Schall und Rauch,
Umnebelnd Himmelsgluth."

"All that we can say is, that while we *know* nothing but that which our senses perceive or our minds understand, we *feel* that there is something more. Both the world without and the world within, both that which is perceived and that which perceives, require an origin beyond themselves. Both compel us to look, as their common source, to a Being alike unknown and unknowable, whose nature is shrouded in a mystery no eye can pierce, and no intellect can fathom." *

Lord Amberley deals cursorily with the subjective element. He shows the universality of the belief in an entity in man, which, though working through, is distinct from, his body, and then, in a brief analysis, suggests the impossibility of resolving the phenomena of consciousness into matter or terms of heat or motion. The gulf between that which feels, perceives, thinks and reasons, and that which is felt, perceived and reasoned on, is so great that no community of nature between them has been, or probably can be, discovered. Whether or not the distinction between them is ultimate in the nature of things, it is ultimate in the order of thought and in reference to us. What, then, of the relations between the unknowable cause and the unknown entity we call consciousness? As the religious sentiment in the mind of man perceives its object, the Ultimate Being, so that Being is conceived as making itself known to the mind of man through the religious sentiment. A reciprocal relation is thus established; the Unknowable causing a peculiar intuition, the mind of man receiving it. "And this," says Lord Amberley, "is the grain of fact at the foundation of the numerous statements of religious men that they have felt themselves inspired

* Those who are curious in such matters may be interested at seeing an analogous view put in similar words by David Hume. In the *Dialogues concerning Natural Religion*, Hume puts into the mouth of Demea these words:—"The question is not concerning the Being, but the Nature of God," which is "altogether incomprehensible and unknown to us". The essence, attributes, manner of existence, and nature of duration of the Supreme "are covered in a deep cloud from human curiosity; it is profaneness to attempt penetrating through these sacred obscurities. And next to the impiety of denying his existence, is the temerity of prying into his nature and essence, decrees and attributes."

by God, that He speaks to them and speaks through them, that they enter into communion with Him in prayer, and obey His influence during their lives." These feelings are not all illusion, however fanciful and unreal the forms they mostly assume. There is a real communion between the objective ultimate and the subjective ultimate, for the latter is the medium through which the former acts. Further, our analysis of perception—whatever the theory to which it leads us—leaves us with consciousness as the one reality directly and indirectly known by us to exist, and nothing is conceivable as existent except under the conditions of consciousness. It is impossible for us to conceive existence except as co-relative to some consciousness; and this consideration leads Lord Amberley to the further inference that our affirmation of the existence of the unknown cause implies that it is akin to consciousness, since consciousness is "the ultimate substance of the mind, from which alone our conception of absolute existence is derived". Therefore the two Ultimates are in some unknown sense alike, though the likeness cannot consist in any analogy to those thoughts, feelings, and conscious moods which in man are constantly flitting and varying. It must have a deeper root beyond our ken; and the Unknown Cause which is thus near and like to us, must include our consciousness as the source from which that has come; for we cannot think of two ultimate causes—one of nature, and the other of thought—one of the outer, and the other of the inner world. We are, then, as produced by or emanating from the universal fount of being, in the relation to it of a part to the whole; and in it we live, and move, and have our being. Consequently in all our actions, even when we deem ourselves to be most free, we are the agents of the Universal Cause. We feel as if we were reservoirs of individual force; but the force is not ours but its, and our conditional and qualified independence does not therefore contradict the great scientific law of the persistence of force, since all things are rooted in the one universal force. The distinction between mind and matter, feeling or thought, and that which is felt or thought about, though real and to our consciousness absolute, is not absolute in the nature of things, seeing that all things are one in the Ultimate Being, and there is "one law, one faith, one element," while all things are moving towards "one far off divine event". There is no real distinction between the universal life manifested in the inanimate forces of our system, and the fragmentary life which comes to light in animated creatures. All things are one, and all things are the same. All things have been and are being educed in the majestic order of universal evolution, and we are able to see how it is that we

cannot comprehend that of which we are parts; "for the part cannot comprehend the whole—it can only feel that there *is* a whole".

The God which (who?) is thus the object of worship for religion, as of acceptance by the philosopher, is not, it is scarcely necessary to say, a personal being. Lord Amberley is as candid on this point as upon others. The "dim figure of an inconceivable and all-embracing ultimate existence" is not reconcilable with the idea of either the abstract Divinity of the pure Deist, or the self-communicative Divinity worshipped by Christians as the Three in One. Consequently to Lord Amberley, Father, Son, and Holy Ghost represent successive stages of illusion through which the human mind has passed. To him, the impersonal is the highest; for all efforts to represent God as a person he declares to be mere "hankerings after an incarnation of an idea which does not by its nature admit of representation by incarnate forms". Religion, however, he contends, does not lose its object because it becomes an unknown and unknowable Power, or Force, or Cause, or however we may name it. On the contrary, instead of being fitful and occasional, Religion is found to be in everything and everywhere. Men are always, and not at merely exceptional times, the agents and organs of the mighty soul of the universe, and religion "becomes a calm, all-pervading sentiment, shown (if it be shown at all) in the general beauty and spirituality of the character, not in the stated exercises of a rigorous piety, or in the passionate outbursts of an enthusiastic fervour". With the loss of a personal God, we also lose the faith in an individual immortality, in resigning which Lord Amberley is forced to admit he surrenders "a balm for the wounded spirit, for which it would be hard to find an equivalent in all the repertories of science, and in all the treasures of philosophy". Progress from a lower to a higher stage, however, (he says) necessarily involves loss; and if we are deprived of the hope of rejoining those who have gone before us, when life's fitful fever is over, we find in the very fact that our all of life is here incentives to duty, and motives to ever-deepening sympathy with our fellow-men, which point onwards to the brighter time when to minister to humanity shall be the glad service of all, and when the consolations of the new religion will surpass in strength and perfection all those offered by the old. Pious resignation to whatever comes, helpful alacrity in doing all duty in the present for the sake of our brethren of mankind, calm, self-confident, because fearless facing of the future where all must be well, seeing that progress is the law of life—these are some of the consolations, as they are the fruits, of the new faith, which claims to

have a scientific basis and to be able to justify itself against sceptics and cavillers, because it only aims at making men wiser and better, more courageous and more enlightened.

In reflecting upon the outcome of Lord Amberley's metaphysics, it becomes plain that there is a good deal more in it than has a right to be there. His Absolute, which is the source whence all things have come, and the fount to which presumably they return after the process of evolution is completed, is akin to, but is not, and has not, consciousness. Either, then, this Absolute is not the highest of existences, since it is non-conscious; or consciousness is not the highest mode of being. We have seen, however, that Lord Amberley felt under irresistible compulsion to treat consciousness as "the one reality which is known to exist"; and in consequence to attribute some sort of vague kinship with consciousness to his Absolute. But vagueness here can least of all be permitted. Personality is the nerve of consciousness, the indispensable and essential constituent and co-relative of thought. Existence is only conceivable in connection with the antithesis of subject and object which is the root-form of consciousness. It is idle to talk of the "substance of consciousness" as if it were something different from consciousness itself—a kind of substratum in which that inheres. We know the substance, and it is consciousness—we cannot transcend this ultimate, which is to us the measure of all things, while itself is measured by none. If all explanation be translation into terms of thought, the only Absolute we can think of, or attribute existence to, is God as Absolute Ego—the nature of whose personality is inconceivable by us, but who must be the source of thought, of consciousness, and whose inclusion of all thought within His own being does not exclude the consciousness of Himself. It is impossible for us to give any definiteness to that feeling of a universal presence which religion supplies, unless we attribute to it (whatever more it has) the highest thought by which alone we are able to construe existence. Feeling or sensation is our ultimate, so far as we are affected by anything; and our analysis of that which excites feeling, forces us to attribute to its cause a mode of existence not inferior to the effect produced. It is a mere assumption which we cannot even make intelligible to ourselves that the conscious may have flowed from that which is non-conscious—that there can be in the effect what has never been in the cause.

If it be objected that in all this we are accepting the deliverance of subjective thought as a valid ground for affirming objective existence, the obvious answer is that it could not lie with Lord Amberley to make such an objection. If consciousness be the ultimate of existence to us, and the Unknow-

able be akin to consciousness, we are driven to the conclusion that the Unknowable—whatever else it includes—does include thought and feeling as the essence of consciousness. Lord Amberley, we have seen, is compelled to accept the reality of the existence of an objective something which corresponds in some way to the subjective feeling that reveals it. He treats as self-contradictory and as the parent of universal scepticism, which would sweep away thought and being alike, the assertions of those who deny the validity of what are felt to be the necessary deliverances of thought. Thought, then, is ultimate to him, the one unassailable foundation of certainty and knowledge; and having accepted that, he cannot refuse to be bound by the consequences: one of which is that the unknowable cosmic Cause is to be represented as including within itself, though we know not how, active self-conscious Personality.

That he does so, even when he seems most to avoid it, can be proved from the ideals he cherished regarding the future. Lord Amberley's faith in time was great. He believed in the brighter future to which he is always pointing us onwards. He believed in the progressive education of the human race, and its final advance to an ethical condition when men would participate in a nobler state of existence than any before experienced. This advance, this progress, was not and could not be the result of man's fitful and unaided efforts only; for man was in all things, and mostly here, the agent of a higher power. It must be regulated and controlled, then, by that higher power which is working towards the highest conceivable ends. What does this process, this progress from a lower to a higher, from the barrenness and poverty of even such beginnings as we are able to trace back to, imply? We may be unwilling to use the term purpose, in particular, ethical or moral purpose; but where there is process that involves such progress as justifies the faith that good, if not the highest good, is to be the final goal of ill, is there not an attribution of intelligence, of thought; and of intelligence and thought that are distinctly moral to the ultimate being? Good for its own sake is presumably the end to which all things have been working from the beginning; and whatever seeming defeats may have been, are partial and temporary—the process is not interrupted, the evolution goes on to its fulfilment. What higher conception can we have of a moral world-order than this; and, where it is cherished, is there not a faith in something higher than a mere force outside of ourselves? It is a power outside of us which makes for righteousness, and involves the best results of intelligence and moral freedom.

But there is more than this in Lord Amberley's Absolute Force, which is everywhere working in and through all for the

general good of all. With Mr. Herbert Spencer—probably from him—Lord Amberley accepts the Unknowable as the Ultimate; and repeatedly speaks of it as an Unknowable Power, Force, or Cause. He has not by the use of these expressions escaped the necessity of interpreting the phenomena of the universe in the terms of thought and feeling; for the Force, Power, or Cause, which is steadily at work through the ages, bringing order out of chaos, good out of evil, the higher and better out of the lower and worse, is as much an "incarnation" adapted to human ways and weaknesses as the idea of a personal God. We cannot evade the necessity, try how we may, of adopting the thought of man as the final measure of the universe; since all things are intelligible to us in the last resort only as expressed in terms of thought and feeling. When we ask *what* the Unknowable involves, we find that what it has lost in definiteness, it has not really gained in comprehensiveness; and we are driven, if we would include under it the elements given as actual factors in our conception of it, to attribute to it powers and qualities that are only conceivable under their human manifestations.

The education of the human race, we have seen, is tacitly assumed by Lord Amberley as one of these factors. The Power in which we live, and move and have our being, acts on men in such a manner that they are guided towards higher levels of thought and experience. There is actual contact between the objective element and the subjective entity, with the result of elevating even the individual, regarded individually. But it is impossible for us, in trying to fix our estimate of what the Power is which is thus over and through all, to leave out of account the instruction regarding its acts and effects offered us by the processes of history. History implies the idea of Providence, as nature suggests that of Fate. The Power revealed by nature as Fate, is exalted into Providence when we take history as our guide; and the forces which were blind before, now become impregnated with moral purpose. Comparative religion cannot neglect this latter side of experience, in order to give exclusive attention to the other; especially if, as Lord Amberley does, we accept the idea of the unity of origin of nature and man. There is an arbitrary and capricious selection of the kind of experience which alone we allow to determine our views in regard to the Unknowable, when we exclude the experiences of individuals and of nations, in so far as they are evidently due to influences higher than lie within the range of the action of the senses and the understanding. Comparative religion cannot proceed in this manner. It is bound to accept, as the materials with which to work, the whole rich and varied freight of phenomena in the spheres both of nature and

of history, and to learn from them what they have to teach regarding the Power which is so much more than a Nature-force, since the highest testimony regarding its character is derived from the region of moral purpose and spiritual sensibility.

Thankful to Lord Amberley for what he has done (though with faltering step he has only trodden the path in which others before him have made steadier progress), the chief value of his work for us of the present time seems to me to be that he takes us to a point where we cannot possibly rest.

J. Scot Henderson.

VII.—THE VERACITY OF CONSCIOUSNESS.

A point more vital than any in philosophy is the veracity of the mind's revealing. But there are two ways of regarding this veracity. The one is, with such inquirers as Reid and his immediate followers, seeing that the primary deliverances are irresistible and necessarily acted upon by all men, to deem it "metaphysical lunacy," even in philosophy, to question their truthfulness; the other, with Descartes and his school, while admitting that in practice all men must have similar fundamental beliefs, to hold that these beliefs are not, in philosophy, to be accepted as final, save in so far as they repel all doubt. Those having the former tendency, the Natural Realists, contend that the primary declarations possess both a subjective and an objective veracity; while those who have the latter tendency, the Idealists, with a bent of mind amounting to semi-scepticism, maintain that such declarations simply possess subjective veracity.

In this paper, an endeavour is made to uphold Natural Realism, or the Common Sense doctrine, which, let it be understood, is, as here treated, not to be confounded with crude common sense. The former, as herein discussed, adheres as rigidly to the full critical method as does the doctrine of Descartes, of Berkeley, of Kant or of Fichte. There seems to be but one true method for philosophy to observe, and that is, first, to take note of our practical beliefs, then, to resolve these into their primary elements, to test the truthfulness of these by comparing them with each other, and finally by applying to them the ultimate law of contradiction.

But when we arrive at the primary elements of knowing as thus discriminated we are confronted by the fact, plain to Reid, for example, as stars shining in the night, that it is impossible either to prove or to disprove the integrity of consciousness as

an ultimate source of evidence. For it must be very clear that, unless there is already a truthful revealing power, the attempted proof or disproof must be quite worthless, the proof must beg the veracity it would prove, and the disproof the veracity it would disprove. In the last resort, then, we must, in a certain sense, as Hamilton states, "perforce philosophically admit that belief is the primary condition of reason, and not reason the ultimate ground of belief. We are compelled to surrender the proud *Intellige ut credas* of Abelard, to content ourselves with the *Crede ut intelligas* of Anselm."

True, demonstration must ultimately repose on primary data; but when reason is opposed to belief as above, are we to understand by it demonstration simply? Not exactly, but rather that judicial act of mind which weighs all kinds of evidence whether intuitional or inferential.

Philosophy is entirely the result of the more dependent, the more comprehensive, the superior, the judicial intellect insisting that the evidence in full shall satisfy its final craving for certainty. This judicial function of the mind exercises the final decision, sits in ultimate judgment upon the evidence, and either accepts it as satisfactory, or rejects it as doubtful. Authority, according to the law of Evolution, does not increase the nearer we approach the foundations of knowing. On the contrary, it is on the authority of our judicial thinking we finally conclude as to the value of all evidence. It must be very manifest that if we were restricted to our spontaneous or unspeculative thinking, the idea, either with the sceptic of questioning, or with the natural realist of vindicating, its integrity, could no more have occurred to the human mind than the thought of immortality can be presented to the intelligence of the elephant or the dog. In philosophy, therefore, all that passes for truth must be verified by that ultimate criticism, on the existence of which philosophy depends.

If, as Ferrier contends, philosophy must be reasoned out from the beginning, this beginning though it cannot be reasoned out, yet may be reasoned *upon* with the view of satisfying ultimate criticism as to the degree of veracity of which it is possessed. How is this effected? In the history of modern philosophy two attempts to solve this question occur to our recollection as of leading importance: the one is that of Descartes; the other that of Hamilton.

Descartes, it is well known, made doubt the starting point of his speculative inquiry; and what fully stood this trial, he discovered, was the fact that he existed as a thinking, doubting, agent. *Cogito*—that fact I cannot doubt, therefore, so far I exist. My consciousness of my existence as a conscious agent

is to me beyond the reach of doubt. Wherefore, consciousness Descartes pronounced to be the basis of certitude. But consciousness, it is too well known, is also the source of much error and deception. How are we to distinguish true from false declarations of consciousness? Descartes saw that doubt is the criterion. It is a mistake to hold that consciousness in general is the basis of certitude. All that Descartes can be understood to claim, consistently with his doubt-test, is that that message of consciousness which does not admit of being questioned is the foundation of truth, that perception which is so clear and obvious as to subdue all scepticism.

But again simply to state that doubt is the test of the veracity of consciousness is about as indefinite as to say that consciousness is the basis of certitude. We need to know what kind of doubt serves this purpose. The doubt-test as applied by Descartes does not keep him from falling into error, and from framing fanciful hypotheses. Leibniz developed this doubt-test into fuller proportions, but, in practice, it still fails to exclude error. The law of contradiction still awaits its fully explicit utterance.

There is indeed a large amount of truth in what J. S. Mill holds in regard to the inconceivableness of the contradictory as the test of necessary truth. Many beliefs firmly stood their ground for a time when thus tested which have since been clearly proved erroneous. The doubt-test could not have been effectual when it thus failed to shake baseless beliefs; it merely served to measure the force and obstinacy with which such beliefs cling to the mind. A proposition may, from the absence of counter evidence to the person who entertains it, appear true beyond contradiction, which, at a later period, turns out to be false. We need, therefore, a more stringent test of truth in philosophy than that afforded by the law of contradiction, the doubt-test, as hitherto understood. This deficiency we shall later on endeavour to supply.

The other instance of a test applied to the truthfulness of our primary beliefs is that to which Hamilton has recourse.

The beginning from which it is contended philosophy must be reasoned out cannot derive additional validity from any prior source,—more especially when it has successfully passed the final examination. But the beginnings of knowing are many and, being co-equal in authority, they admit of being compared with each other in order to discover whether they contradict and by contradicting invalidate each other's authority. Were they to do so, their mendacity, so Hamilton declares, would be proved. This, however, as Mr. Herbert Spencer points out, is a strange assertion for Hamilton to make; for, as shown above, any attempt either to prove or to disprove the veracity of our

primary beliefs must take that veracity for granted. To state, therefore, as Hamilton does, that were our primary beliefs in conflict with each other their mendacity would be *proved*, completely begs the question. At the same time, such conflict, if existing, would have the effect of making absolute scepticism the goal of philosophical inquiry. As might be anticipated, however, the results obtained by the mutual comparing of our primary convictions is most favourable to the truth of Natural Realism, for it is found that such convictions, far from being in a state of conflict with each other, form a most happy family. Of this fact we shall presently have to greet the happy significance.

But let it not be thought that this is the only test which Hamilton recognises of the honesty of our primary beliefs. As a natural realist he contends for the objective validity of such beliefs; and it is in vindication of them in this respect alone that he applies the forementioned test. In relation to the subjective validity of our fundamental beliefs, he adopts the Cartesian doubt-test.

It is highly necessary to have a clear notion of the distinction which subsists between the subjective and the objective report of consciousness. Let us call knowing a revelation. It first of all reveals its own existence as possessed of certain qualities, that is, the knowing reveals itself to itself, and is, in this sense, an object to itself. But here knowing and the object are identical, and this is the only case in which we are justified in declaring that knowing and its object are one and the same. Here the declaration is clear and forcible to the effect that the knowing knows nothing but itself.* In the instance of an external object, however, the declaration is equally clear and forcible to the effect that the knowing does not simply disclose its own existence, but also the existence of something which does not dwell in the mind at all. So far as knowing merely reveals its own existence, we have the facts of the process; so far as these facts reveal the existence of something external to themselves, we have to deal with the objective veracity of consciousness. If these facts be compared to an African traveller narrating his adventures, there cannot be a doubt that the traveller exists, and that he declares his exploits to be of such and such a nature.

* It needs to be explained that knowing does not, at the outset, reflectively know itself, *i.e.*, know itself in such a manner that the psychologist experiences no difficulty in describing its several processes; on the contrary, at first, it only knows itself to that extent which is indispensable to its existence as knowing. Those who like Comte deny the possibility of such a science as psychology are blind to the fact that knowing *quoad nos* underlies everything, and that our objective world is knowing to a greater extent at least than it is not-knowing.

But is his narrative true? As to the facts of consciousness, certain of them report—those that relate to the primary qualities—that objects non-identical with these facts exist. There can be no more doubt of the existence of this declaration than there can be of the existence of the traveller and his narrative. But what about the truthfulness of this declaration? The object in this instance not being identical, says consciousness, with consciousness, the declaration is not self-verifying as in the instance in which consciousness and object are one and the same. In the one case, the mind reveals that something exists, and that something is the revealing itself; in the other case, the mind reveals that something exists, and that something is not the revealing itself; so in the latter case the knowing is not self-verifying; and out of this fact emerges the great problem of philosophy, to wit, *Are primary declarations of consciousness when not self-verifying truthful beyond the possibility of doubt?* This, which has been called the cardinal question of philosophy, is the secret to be won; care, however, being taken that it be better understood than it was by Reid and his more immediate followers: practical must not be confounded with speculative conviction, for the former does not necessitate the latter. To cite a memorable instance of this fact—In outward perception as relating to the primary qualities, the declaration is most clear to the effect that there is an external world existing independently of the percipient, and, in practice, we are forced by our constitution to place implicit reliance in this declaration. This, however, is only practical conviction, and constitutional, irresistible, unchangeable, and universal though it be, it is not, as respects its veracity, considered by all to be beyond the reach of doubt. We lay the more stress on this distinction, because Reid and his immediate followers seem wilfully to shut their eyes to it, and to argue with the "vulgar" that if a man in the character of a philosopher, cannot trust his senses, he should, to be consistent, fall, heedless of their warning, into the fire, or leap over a precipice.

It has already been mentioned that Hamilton's guarantee applies solely to the objective trustworthiness of our original beliefs. The subjective integrity of these, he reckons to be placed far beyond the range of scepticism. "The facts of consciousness as mere phenomena," he affirms, "are by the unanimous confession of Sceptics and Idealists, ancient and modern, placed high above the reach of question." Descartes could not doubt that in so far as he was conscious he existed. Hume never brought his scepticism to bear upon the existence of impressions and ideas; and J. S. Mill affirms that there is no appeal from the human faculties generally. Here, then, in the

very centre of our intelligent being is a stronghold of certainty which ever did and ever will continue to prove impregnable. The subjective veracity of consciousness being, therefore, criticism-proof, the problem remaining to be solved relates merely to the objective veracity of consciousness when it affirms the existence of the primary qualities. Hamilton did much to establish this objective veracity, yet after all his efforts, he has to make the admission that to suppose the mendacity of the non-self-verifying is not self-annihilating, as is the supposition that the self-verifying is mendacious. "The Idealist," he remarks, "in denying the existence of an external world as more than a subjective phenomenon of the internal does not advance a doctrine *ab initio* null, as a scepticism would be which denied the phenomena of the internal world itself." After an admission of this kind, it is not surprising that such a luminary as Ferrier should arise in the firmament of Scottish metaphysics, and that he should affirm—"My philosophy is Scottish to the very core, it is national in every fibre and articulation of its frame". Now the peculiarity of the present exposition consists in holding, in opposition to Hamilton, that the idealist, in denying the objective integrity of the primary conviction relative to the independent existence of the non-ego, *does* advance a tenet *ab initio* null.

It is an admitted law in respect to the primary judgments as revealing themselves, the self-verifying, that they cannot have their veracity called in question without involving a direct *subversio principii*. Now an objective primary declaration must have its basis in a subjective declaration. Thus, the declaration that the primary qualities have an *esse* which is not *percipi* does, at all events, exist as a declaration, as a phenomenon, that is to say, a base. But is this base, moreover, a truthful objective deliverance? The idealist says it is not. The *esse* of the primary qualities, as of every other quality, he maintains, is *percipi*. Now this is a statement, observe, in regard to the nature of the self-verifying itself, and is in direct contradiction to what the self-verifying reveals of itself, namely, that the *esse* of the primary qualities is not a constituent part of the self-verifying, is not *percipi*. This negativing by idealism of a self-verifying deliverance proves it to be, not merely a "baseless paradox," but a *subversio principii*.

By way of illustrating the doctrine here advanced, let us enter into a criticism of Ferrier's views as conveyed to us in *The Institutes of Metaphysic*. Ferrier strongly insists that the primary data of consciousness, even as explicated, criticised and vindicated by Hamilton, are natural inadvertences; that philosophy assumes and must assume that man does not naturally think aright, but must be taught to do so; that truth does

not come to him spontaneously, but must be brought to him by his own exertions; that philosophy must be reasoned out from the beginning. Yes, from the beginning certainly, if it is to be reasoned out at all, but what is this beginning, and how does it in the ultimate judicial scrutiny certify us of its integrity? Ferrier's datum is this:—"Along with whatever any intelligence knows, it must, as the ground or condition of knowledge, have some cognisance of itself." In further explanation of this principle, Ferrier states "that the object of knowledge, whatever it may be, is always something more than what is naturally or usually regarded as the object. It always is and must be the object *plus* subject, thing or thought *mecum*. Self is an integral and essential part of every object of cognition." Yes, of every self-verifying object, of the object that is identical with knowing. But there is an object which is non-identical with the knowing, so says the knowing itself, and if this assertion cannot be doubted without the doubt being self-contradictory, what then?

The most obvious objection to which Ferrier's first principle lies open is that which has been urged with so much feeling by Reid and similar inquirers—it is in contradiction to the very clear and universal belief that objects proper exist. Here, then, are two declarations of consciousness in fierce antagonism to each other, and one of them constitutional, irresistible and unchangeable. But is it not highly improbable that there should be an unavoidable feud between two states of mind? "Nature," as Hume confesses, "is always too strong for principle;" and Fichte admits that "How evident soever may be the demonstration that every object of consciousness is only illusion and dream, I am unable to believe it." Here we have, for the philosopher, then, as a cruel and monstrous necessity, a mind divided against itself. O blissful ignorance of the many, if this be the result of knowing philosophy!

But seeing that our primary beliefs cannot be extinguished even when proved, as held by some, to be natural inadvertences, how comes it to pass that so much reliance is placed by the idealist on what gives them the lie? The reply to this query will most likely be as follows. The subjective authority of consciousness is more to be respected than its objective authority. Ferrier's datum is a subjective disclosure, a fact of consciousness; whereas, the objective deliverance which it negatives is of lower authority, and only to be accepted as a phenomenon. Now, mark well that such antagonism as is here indicated exists neither between any objective deliverance and its base; nor, as Hamilton has shown, by means of the test noticed above, between any primary belief and its fellow. Where, then, seeing

that Ferrier's first principle possesses neither of these peaceable characteristics, are we to seek for its origin?

When data purporting to describe laws of mind are mutually contradictory, it is more reasonable to conclude that some of them must be faulty, than that the mind should be cruelly divided against itself; and, indeed, when the several data are minutely examined it is found that, as "God made the country but man made the town," so the primary data of consciousness are the inherited mental groundwork of all mankind, while other data are acquired by observation and experiment, and frequently by anticipation. The one forms Nature's capital; the other, the acquired possessions which necessarily imply the pre-existence of such capital. Now acquired data are frequently found wanting when weighed in the balance of exact inquiry. This being the case, there is but one sound conclusion at which to arrive, namely, that the acquired data are more likely to be at fault than the fundamental and universal assurances of the mind. This rule is set at nought by Ferrier, who argues that philosophy assumes and must assume that man does not naturally think aright, but must be taught to do so; which is as much as to say that Nature's declaration as to the independent existence of the primary qualities is to be corrected by an acquired datum; for, as has been shown, a self-verifying declaration, or a subjective fact of consciousness, Ferrier's datum is not. Where, then, is its origin to be sought?

In order to answer this question, it is needful briefly to refer to the "ideal hypothesis". Reid slew this hybrid obstruction to the truth, and thus bodily made a clearance of it. Its ghost, however, still remains to haunt and bewilder the mind of metaphysicians; and it is now high time, if Philosophy is to take her fitting place in popular regard, that this ghost should be laid for evermore. The essential feature of the ideal hypothesis, it need not be stated, is holding that the mind cognises external objects through a medium or *tertium quid*. Now the idealist pretends successfully to have proved that such medium is the only object of cognition. With him, the representing object of Descartes and of Locke is made to displace the represented object, and is constituted the only object. An object is necessarily retained, but instead of admitting it to be external, not *in* the mind, as Reid and consciousness declare, it is held to be simply a modification of our subjectivity—Being is merely a phase of Knowing.

This view, for the reasons herein adduced, we feel convinced, is erroneous. No object proper forms a constituent part of the fact of consciousness—of that which is self-verifying—of that which declares that an object proper is not *percipi*—of that

which cannot be thought mendacious without such thought being self-subversive.

In further explanation of this problem it is desirable to state that when we know the qualities of the material self in correlation with those of the not-self, the consciousness is double, forming one whole, the two parts of which are *similar* indeed, but distinguishable. Thus, when in touch we feel the organism as resisted over an extended surface, we also feel that it is resisted by a co-extended resisting externality. This fact seems to have led to the notion that in touch, an impression is made as by a seal upon wax, and that the impression thus made reveals the existence of the external object by corresponding with it. But this is the representative doctrine, which is not proof against scepticism. According to that hypothesis one part of the double process only is immediately known, and serves to suggest to the imagination that which makes the impression. This is not the doctrine of a double consciousness in perception; according to which doctrine both parts of the double consciousness simultaneously exist forming a single act of knowing, a relation between ego and non-ego.

It has to be explained that the double consciousness of which we are treating exists solely in the case of touch and the motor sense, the perception of the primary qualities. In the case of the other senses, consciousness is single. Colour does not involve a co-extended colour, nor sound a corresponding sound. In these instances, the external cause of the sensation is not directly known, it is inferred. The object of touch and the motor sense being perceived at one and the same moment as we experience sensations of colour, sound, scent, an association is formed between the latter and the former, and the inference comes to be made that the exciting causes of the latter issue from the objects revealed by the double consciousness, these objects being the substratum to which the secondary qualities or external excitants of the single consciousness are, by inference, attributed.

The conclusion which has now been arrived at is this:—While the single consciousness (regarded as a primary deliverance) reveals simply its own existence as the self-verifying, the double consciousness (regarded as a primary deliverance) directly and clearly reveals the existence of the non-self-verifying. Then the self-verifying base of the double consciousness declares that the non-ego is not a constituent part of such base, is not *percipi;* and to negative this subjective declaration, as idealism seeks to do, is to commit a *subversio principii.*

There is one other point which it is highly desirous to notice. In the Order of Evolution, the Category of Difference is prior to

the Category of Resemblance. It is the condition of a general notion that it must be founded on the similarity to each other of individual cognitions. Discrimination, or the cognition of objects as mutually differing in individuality or number, is prior to the cognition of the same objects as mutually resembling. Now idealism is founded on a complete violation of this order. Let us select for criticism, as an illustration of this statement, the view expressed by J. S. Mill in the following words :—

"There is not the slightest reason for believing that what we call the sensible qualities of the object are a type of anything inherent in itself, or bear any affinity to its own nature. A cause does not, as such, resemble its effects ; an east wind is not like the feeling of cold, nor heat like the steam of boiling water ; why then should matter resemble our sensations ? why should the inmost nature of fire or water resemble the impressions made by these objects upon our senses ? And if not *on the principle of resemblance*, on what other principle can the manner in which objects affect us through our senses afford us any insight into the inherent nature of those objects ? It may, therefore, safely be laid down as a truth both obvious in itself, and admitted by all whom it is at present necessary to take into consideration, that, of the outward world, we know and can know absolutely nothing, except the sensations which we experience from it."

We submit that the argument by which Mill here supports his position is fallacious. When an organ of sense is excited into activity, and this excitation is continued by the afferent nerves to the related sense-centres, and so on till the final result is reached—the revealing, by the double consciousness, of the primary qualities as external to the organism, what meaning can there be in the intimation that unless this revealing resembles the object proper, we can have no knowledge of such object ? The judgment which determines the existence of resemblance or non-resemblance involves prior knowing, knowing, which, in the Order of Evolution is at the root of all other. The consequence is, that whenever an attempt has been made to explain the primitive act of knowing a *petitio principii* has been committed ; for these explanations are all based on the supposition (or the denial) that something in the mind resembles the external object, and thus alone reveals its existence. To assert, therefore, that we can know nothing of non-self-verifying objects because our knowing bears no resemblance to them is on a par with saying that we cannot learn the alphabet because we have not learnt to read. The double consciousness reveals to us that non-self-verifying objects exist, namely, the extended ego in relation with the co-extended non-ego, and the resisting ego in relation with the counter-resisting non-ego. To ask how

it does this is to seek an explanation of the inexplicable, to seek a beginning beyond the beginning; and to ask whether the double consciousness can in philosophy be relied upon is to raise the question which in this contribution has been answered in the affirmative. Indeed, when we behold in man a series of nervous systems, one evolved out of the other, a complete microcosm; when we turn our thoughts to the different grades of the animal and the vegetable kingdoms, each higher grade implying the pre-existence of a lower in speciality and dignity; when we turn our thoughts to the several geological eras, to the sedimentary strata, still further back to the rocks of eruption, further back still to the nebular period of planetary formation, how can we, with so able an interpreter of the Order of Evolution as Mr. Herbert Spencer, avoid coming to the conclusion that idealism is, as we have attempted to demonstrate, a doctrine *ab initio* null.

W. G. Davies.

VIII.—PHILOSOPHY IN THE SCOTTISH UNIVERSITIES. (I.)

Some people, both south and north of the Tweed, are found in these days not unfrequently to talk and write as if the Universities of Scotland were simply large Public Schools of the English type, and of rather an inferior sort. They look to the school-subjects that are taught—Latin, Greek, and Mathematics—and disregard, or have a very vague idea of, any other kind of instruction given in them. The discussions about the Scottish Universities are thus very apt to take a one-sided course, and to be restricted to questions regarding the degree of classical preparation with which students enter or ought to enter them. All through those discussions there is little perception or recognition of the fact that these Universities have been from their foundation and throughout their history seminaries of Mental Philosophy,—of Logic, Psychology, Metaphysics, and Ethics. This holds especially true of the three oldest of them —St. Andrews, Glasgow, and Aberdeen. In these, the first constituted Faculty was that of Arts; it was the fundamental Faculty in them and in all the mediæval Universities, and it was made up of the three departments of Logic, Physics, and Ethics. Even the Physics of that day included reference to the phenomena of Mind; and in some of the Universities we find, until very lately, Pneumatology as a part of what is now known as Natural Philosophy. Greek, Latin, and Mathematics,

came gradually to be added to the Faculty of Arts. Greek was first known in Scotland, and first taught in the Universities of Glasgow, Aberdeen, and St. Andrews, about the middle of the 16th century. The learned, zealous, and vigorous Andrew Melville introduced the teaching of Greek into the University of Glasgow in 1574, and into that of St. Andrews a few years later. There is, however, some probability that Greek was known and taught in Aberdeen a quarter of a century even before this date, for Greek orations were made in that University before James V. and his Queen in 1541. The teaching of Latin as a language was not a part of the University curriculum until after the decline of learning in Scotland which followed the Reformation. From the foundation of the older Universities, a knowledge of Latin was imperative on the Intrant or Bajan student (*Bec jaune*, Yellow Neb),—such an amount of knowledge, at least, as enabled him to follow the expositions of the Regents. We find in Glasgow statutory prohibitions even of the use of the vernacular among the students, and the requirement of Latin in their ordinary intercourse.* A student was further interdicted from having a servant in the college, or bringing in a friend, "nisi scholasticum sermonem callentem". The institution of the Latin Chairs in the Universities—in Edinburgh, 1583, St. Andrews, 1620, Glasgow, 1637—may be said to correspond with a continuous decline in the school-teaching of the language.† The Chair of *Literæ Humaniores* was chiefly valuable as showing a recognition of the new spirit and studies of the Reformation period. There were disputes shortly after the foundation of these Chairs between the Colleges and the teachers of the remaining higher class Grammar Schools, as to the limits of their respective provinces.

Philosophy, especially Dialectic, was thus the characteristic study of the Scottish student from the foundation of the Universities. In the olden times, as now, it was his strong and cultivated faculty. During the latter part of the fifteenth, through the whole of the sixteenth, and the greater part of the seventeenth centuries, the errant 'Scot abroad' was known as much in the disputations of the continental Universities for his skill in dialectic, learned at his native Schools, as he was famous for his readiness and courage in following a military leader—native or foreign—a Douglas or a Gustavus Adolphus—to the battle-fields of France, and the wars of 'Hie Germanie'.

* *Munimenta Almæ Universitatis Glasguensis*, II., 41, temp. Jac. V.

† The Humanity Chair in Aberdeen was not instituted until 1839. Was this because the teaching of the Grammar School was so good that a Chair was not required in the University?

As Erasmus said of the mediæval Scots, "dialecticis argutiis sibi blandiuntur". Among those 'knight-errants' of the schools, we have several distinguished names. A short list of the most prominent of them is not without interest. In the 15th century, Scotland sent from its native Universities to those especially of France, as Regent teachers of Philosophy, Thomas Otterburne, Henry Leighton, Robert Fleming, Thomas Mushet, Umfrid Hume, James Martin. In the 16th century, we have the well-known Hector Boece, the 'first doctor' or teaching Regent of Aberdeen, recalled from the Sorbonne by Bishop Elphinstone, to help the young University. John Major, George Lockhart, and William Gregory, of the College of Montacute, are all distinguished names, and taught with great success in the University of Paris. Gregory afterwards went, as Professor of Philosophy, to Toulouse, where he died in 1527. Archdeacon Bellenden and Richard Moryson, who taught abroad, were Aristotelians reputed second to none in their time. Early in the 17th century, we have George Eglisemmus (Eglesham), John Walker (Vigilantius), and, greatest of all, the three names of Robert Balfour, Mark Duncan, and William Chalmers. Eglesham, Walker, and Balfour, were all of St. Andrews. Eglesham was Professor of Philosophy at Leyden, and is the author of *Animadversiones in Aristotelis Logicam.* Walker was Professor of Philosophy at Nîmes, and is the author of *Prefationes in Aristotelem.* Robert Balfour, of Fife extraction, was long Rector (Principal) of Bordeaux, and wrote *Commentaria in Universam Logicam, in Physicam et Ethicam Aristotelis,*—commentaries which, for ability and learning, are in the first rank. Mark Duncan was Professor at Saumur. His *Institutio Logica* appeared there in 1612. It was a work of the very highest repute, and is even now of great value. William Chalmers of Anjou is the author of *Disputationes Philosophicæ,* and *Introductio ad Logicam.* Gilbert Jack of Marischal College, Aberdeen, was Professor of Philosophy in Leyden. Even the famous Burgersdick, who succeeded him, did nothing more than sustain the reputation of his predecessor. Jack was distinguished alike in Medicine and Philosophy. Bayle speaks of him as one of the subtlest Peripatetics of the age. He was the author of *Primæ Philosophiæ Institutiones,* Leyden, 1616. Walter Donaldson, also of Aberdeen, was Principal of Sedan, and gave to the world, in 1612, at Frankfort, his *Synopsis Locorum Communium.* Then there is the name of David Buchanan, Regent in Paris, author of the *Historia Animæ Humanæ,* 1636, and *L'Histoire de la Conscience,* 1638. The tendency to philosophical study which had been encouraged by the native Universities and grew to maturity abroad, re-acted on these Universities in turn;

and in the middle of the 17th century, we have the distinguished name of Robert Baron of Aberdeen, one of the 'Doctors' who stood by Laud and the Service-book,—a metaphysician of wide continental reputation. By the side of Baron, and even superior to him in originality, we must place George Dalgarno, also of Aberdeen, the now well-known author of the *Ars Signorum, vulgo Character Universalis et Lingua Philosophica*, London, 1661. Afterwards, Bishop Wilkins took up the humble Aberdonian's idea, and made for himself a name in his time.

In this connection I need not at present do more than refer to the number and succession of original works contributed to the literature of Philosophy by the occupants of philosophical chairs in the Scottish Universities, since the old system of Regenting was superseded by that of the Professoriate in the first quarter of the last century. There is not a single University which cannot point to a name of some distinction in this walk of literature, and the philosophical writings thus originating have so many features of method and matter in common—such a general consensus in the development of doctrine—that they have appropriately been regarded as forming a distinctive school of philosophical opinion. Those interested in the 'Endowment of Research' might fairly be called upon to study the philosophical literature of the last hundred and fifty years which has emanated from the Scottish Universities. The views of some of them regarding the province within which research may profitably be conducted, might probably receive some enlargement. It might also be suggested that teaching and research are by no means incompatible, rather mutually helpful.

In the Universities of Scotland at the present day, after all the changes of constitution which they have undergone during four hundred years, the subject of Mental Philosophy occupies, if not an exclusive, at least a very prominent place in the curriculum of Arts. For the degree of Master of Arts, this department constitutes, as I shall afterwards show, a proportion of requirements such as is not found in Oxford, Cambridge, or Trinity College, Dublin. The teaching of Mental Philosophy is addressed to a class of students of an age considerably higher as a rule than that of those who undergo the classical training. The Scottish Universities must, therefore, be judged as well by the relative merits of Mental Philosophy as a study and a discipline, and by the way in which it is taught, as by any comparison of them with Universities which aim exclusively, or even mainly, at reaching a high standard in classics and mathematics. Any criticism of the Scottish University system, or proposed reform of it, which ignores or under-estimates the historical

and the actual place of Mental Philosophy as an essential part of its discipline, is neither intelligent nor just.

In seeking to deal briefly with the course of Philosophy in the Universities of Scotland, and the arrangements that have been and now are in use for the teaching of it, reference must be made to the changes of constitution which those Universities have undergone, to the bearing of these changes on philosophical instruction and to the progress of philosophical thought in the Universities during the last four hundred years. It may possibly be found that a review of those points has some little instruction for us, now that a Royal Commission is dealing with institutions, which have their roots deep in the past, and which have grown up and been modified so as in the main to suit the national requirements.

The Scottish Universities were originally connected with the Universities of the Continent, and their system of study. Although the neighbouring English Universities were in existence, they had no influence on the framework of those in Scotland; and while there is frequent reference to the constitution and usages of Bologna, Paris, and Louvain in the records of the Scottish Universities, there is none to Oxford or Cambridge. The bright promise for Scotland which arose with David I. in 1124, had been darkened by the death of Alexander III. in 1286. In the comparatively peaceful time before the death of Alexander, John Baliol and his wife Devorgilla, the parents of King John, had founded a college in Oxford, between 1263-68, with some view to students from Scotland. And we find at least two names of Scotsmen of historic and legendary mark who studied at Oxford about this period. The one is Michael Scott, the reputed 'Magus,' but really an able mathematician and learned commentator on Aristotle. The other is his contemporary, Joannes de Sacrobosco (Halywoode), whose treatise *De Sphæra Mundi* was afterwards for long a text-book in the Scottish Universities. Both of these, however, completed their studies in Paris. The War of Independence which followed left no leisure for the pursuits of learning. In it were destroyed or crippled nearly all the abbeys and religious houses of the country —especially of the Lowlands—which alone, by means of the schools attached to them, had kept up any degree of learning and culture in the country. The struggle between the Anglo-Scot of the Lowlands and the Anglo-Norman of England—the spirit of individualism striving with that of feudal domination which continued for many centuries onwards—rendered it almost impossible for the Scottish student, if indeed he existed in those days, to repair to the neighbouring Universities of England. Usually the northern aspirant after learning who

dared to brave the perils of a journey to Oxford, and the treatment he met with there after he reached it, needed a special safe-conduct from the English king. It was under such a safe-conduct that John Barbour, the afterwards famous Archdeacon, went to Oxford along with three students from Scotland. The journeys thither were thus, doubtless, few and far between. Usually it was a continental University, and especially that of Paris, to which the future Scottish ecclesiastic or lawyer had recourse. France during the Middle Ages was the natural ally of Scotland. As early as the time of Robert Bruce, when his nephew Randolph Murray was in Paris negotiating a renewal of the Scoto-French alliance, the patriotic Bishop of Moray, appreciating the wants of the youth of his country, founded in the University of Paris a College known as the Scots' College. This and another College in the same University, that of Montacute, were the favourite resort of the Scottish student down to 1411, the date of the foundation of the oldest Scottish University,—that of St. Andrews. For Scotsmen to repair to the University of Paris, both as students and Regents, was common even for generations afterwards. The Scottish student was as familiar in the fifteenth and sixteenth centuries with the streets and alleys of Paris, as he now is with those of Edinburgh or Glasgow. The names and labours in Philosophy in the University of Paris, in the early part of the sixteenth century, of John Major, "disceptator acutissimus," George Lockhart, and William Gregory, throw a lustre over the expiring day of Scholasticism.

The wave of continental learning at length reached the shores of remote Scotland, and one century—the fifteenth—witnessed the foundation of the three oldest Scottish Universities—St. Andrews first, as we have said, in 1411, Glasgow in 1450-1, and University and King's College, Aberdeen, in 1494. Marischal College and University, Aberdeen, was founded by George Keith, Earl Marischal, about a century later, in 1593. The two Colleges and Universities of Aberdeen were fused into one in 1860. Edinburgh, the creation of James VI., rose after the Reformation in 1582. It cannot be said at any period of its history to represent the model of the old European University. It never participated in the mediæval organisation; it rose and it has won its fame and displayed its usefulness as, what without disparagement may be named, a 'teaching institution' in the more modern period of the Scottish Universities. These, with the exception of Edinburgh, are a legacy to the nation of the churchmen of the fifteenth century. That they contributed to the overthrow of that Church which produced them, there can be little doubt. Until that fifteenth century, the education and upbringing of the future Scottish

ecclesiastic and lawyer was foreign; he became associated in feeling and culture with the great ecclesiastical and academical unity of Europe; and it is probable that, but for the institution of the native Universities and the substitution of home influence and associations for foreign training, the Scottish Reformation—an ecclesiastical revolution—would not have been carried through with so little upheaval of society as it was.

Those of the Universities of Scotland which were founded before the Reformation, *viz.*, St. Andrews, Glasgow, and Aberdeen, thus carry us back to the continental Universities of the twelfth and thirteenth centuries. In their earlier constitution, they recall a foreign model, and in their subjects and manner of teaching, they resemble the typical European University of the Middle Ages. They were avowedly instituted as a part of that great system of continental education, the head of which was the Pope, and whose charter and license was a Papal Bull. They were incorporated members of the great educational confederation of the Catholic world; and their graduates had consequently the privileges of continental graduates; they were *free*, as it was termed, of all the Universities of Europe. It was this which made it easy for the Scottish students and Regents to flock over Europe, and to pass restlessly from University to University. "Sedem saepius commutavit" was said of George Buchanan. It might have been said with equal truth of most Scottish Regents and Professors abroad. The degree or license to teach, the ready command of Latin, and the quick wit in dialectical disputation, were all the poor Scottish scholar cared or needed to carry with him from home. They were his passport through the Universities of Europe, and they enabled him to work his way to the highest offices of teaching in those seats of learning.

The two great Universities of Bologna and Paris—the former going back to a very remote time, the latter dating from the twelfth century—were the general models of the Scottish Universities. Directly, however, the exact constitution and most of the arrangements in them were borrowed from Louvain. And we know how Paris and Louvain arose. The oldest educational influence in Western Europe was a portion of the logical treatises of Aristotle, translated by Boethius in the sixth century. The Cloister-Schools of Charlemagne in the ninth century rendered them directly available for purposes of education, and those treatises, along with some sprinkling of Neo-Platonism, afforded nearly all the intellectual nutriment of Western Europe down to the twelfth century. In this century, through the crusades, and especially intercourse with the Universities of Spain, the parts of the *Organon* not before known to Western Europe and the other works of Aristotle—psycho-

logical, physical, and metaphysical—came within reach of the cloister scholar in the form of Latin translations from the Arabic.

> "Solus Aristotelis nodosa volumina novit
> Corduba."

The scholars of Constantinople also contributed certain translations from the Greek originals. Out of this addition to the scant treasures of learning arose, about 1142, shortly after the time of Abelard's teaching, the beginnings of the second epoch of Scholasticism. This is generally described as the fullest development of the application of the dialectic method to theology; but in truth it was, through this application and the views opened up in connection with it, a laborious working out of thought to questions about reality of the deepest human interest. To the possession at first of those portions of the *Organon* known before and up to the time of Abelard, and to the additions made in the twelfth century, we owe, in a great measure, the foundation of most of the continental Universities, —especially Paris and Louvain; and with the gradual discovery and spread of the Aristotelic MSS. in Europe, grew up the subjects of teaching in the Faculty of Arts—the fundamental Faculty of the mediæval Universities, for to pass through it was regarded as indispensable to the study of law and theology.

Further in this twelfth century, the awakening intellect of Europe was deeply interested by the discovery of the long lost *Pandects* of Justinian. The same century was enriched by the publication of the *Decretals* of Gratian, and the *Sentences* of Peter Lombard. The study of those treatises soon came to be eagerly pursued in an age deeply occupied with civil and ecclesiastical organisation and theological dogma. They gradually came to be the subjects or text-books of instruction. In the absence of printing, the books could not be spread over Europe; learners must come together from different nations to hear them read and expounded; hence teachers at common centres became incorporated, and there thus arose over Europe the mediæval Universities, and in these the four Faculties of Arts, Civil Law, Canon Law, and Theology. The Faculty of Arts had for its aim instruction in the Aristotelic treatises; Civil Law had for its subject the *Pandects* of Justinian; Canon Law dealt with the *Decretals* of Gratian; Theology taught, as its Bible, the *Sentences* of Peter Lombard. The *pabalum* of the mediæval University was thus books, and its teachers were in the main 'Readers,' whose obligation and duty it was—originally fixed by oath—faithfully to expound the books, the *quodlibeta*, prescribed by the annual committee of the University presided over by the *Quodlibetarius*.

This necessary historical sketch suggests two points for our

notice. The one is the method of instruction in the Scottish Universities during these early centuries, and the other is the material of instruction.

In theory, as is now generally acknowledged, every Master of Arts was privileged to teach in the University. There was even a period of two years after graduation of necessary regenting. This was ultimately compounded for by the payment of a fine. In the Italian Universities, before 1400, and in some of the more western Universities, the practice of graduate teaching had ceased, if, indeed, it ever was in general force. In Glasgow and Aberdeen we find the salaried Regent in existence from the foundation of each University. There seems to be no evidence of free graduate teaching in the Scottish Universities. Salaried Regents, or Regents having Church benefices, were the earliest academical instructors. These were followed by unbeneficed Regents, who depended on the voluntary offerings of the students. It was indeed owing to a provision of endowment for the Regents in Arts that the Faculty came alone to be fully constituted in the Scottish Universities. Neither Civil Law nor Canon Law appears ever to have reached the maturity of a Faculty. In the pre-Reformation Universities—St. Andrews, Glasgow, and Aberdeen—and in Edinburgh during the seventeenth century, the practice of teaching by Regents prevailed. The system implied that the same teacher carried on his students from the first year of their course to its close—a period of three years and a half—when they were presented for the degree of Master of Arts, having previously taken those of Bachelor and Licentiate in Arts. One Regent, therefore, instructed the same class of students in all the departments of academical study.

Regenting was essentially a method of teaching by means of approved books. The Regent read, expounded, and dictated to the student, who was called upon to write carefully and at full length the *dictata* of the Master. On these he was examined and exercised, chiefly by means of the practice of disputation. This, in its most public form, was known as 'determining'. It took place in presence of the whole University. The meeting was presided over by one of the Masters, who proposed the questions, in Ethics or Metaphysics. The youthful students of Logic (juvenes Logicæ studiosi) showed their proficiency in the art by there and then giving their opinions on the question.

The system had the advantage of a close personal supervision of the student by the master, who was thus able to study and influence the character of those under him, as well as watch their intellectual progress. And so far as classical learning was concerned, there can be no doubt that it issued in accurate

scholarship. Through the regenting system in the Universities and the high standard of teaching in the Grammar Schools of the country, Scotland, especially during the sixteenth century, produced men whose Latin scholarship was as high as any in Europe, and not to be paralleled at the time by any in England. The names of George Buchanan, Florence Wilson, Henry Scrimger, Arthur Johnston, and several others testify to this.

In Philosophy, however, the system of regenting cannot be said to have acted so well. The teaching of Philosophy by means of approved books is better than none; but it is not a good arrangement. Its tendency is to make little demand either on the research or the power of active thought of the teacher, and thus to repress originality. However much it may conduce to accuracy in the mastery of the books, it is not likely to promote the habit of original speculation either in master or pupil, or to lead to progress in philosophical science. The system, accordingly, though greatly fostering dialectic skill in the mediæval student, proved generally barren in respect of original works in Philosophy. It certainly produced very able and learned treatises particularly in Logic, and in dogmatic and polemical Theology. The names of Major, Lockhart, Mark Duncan, and Robert Balfour, alone testify to this, though it should be remembered, that these men were not products exclusively of the Scottish Universities, having passed into the wider circle of European thought, and being frequently teachers of Philosophy exclusively—in fact, Philosophical Professors.

In Scotland, the regenting system continued with some slight breaks and attempts at reform, until the first quarter of the last century, and even later. In St. Andrews, the system was exchanged for that of the Professoriate at the union of the Colleges there in 1747. In Aberdeen, it lasted down to 1754. In Glasgow, a Professoriate was instituted in 1577. The Regent Morton carried out the ideas of Melville; but regenting was resumed in 1642. The professorial system was finally constituted there in 1727. The Edinburgh regenting gave place to the professoriate in 1708.

The first point in the professorial system, as compared with that of the Regents, is the restriction of the teaching of the Professor to a definite subject—one out of the many which each Regent was called upon to teach. This leads to a concentration of energy on the part of the Professor, to a fuller and more consecutive study of his subject, and it avoids the distraction arising from the necessity of mastering, in probably a general way, several subjects of instruction.

The second point is, that there is no restriction in the teaching to specific books. The Professor is left free to arrange and

develop his subject as he chooses, and to contribute, if he can, to its progress in his lectures. He is thus able to give a comprehensive and systematic view of the various points of his subject, as opposed to that afforded by an ill-assorted congeries of books. The greater concentration upon the department of which he treats, the freer spirit of research and independent thought thus engendered, have certainly left their mark on Philosophy in the Scottish Universities. Since the institution of the Professoriate, upwards of one hundred and fifty years ago, there has arisen (as said above) in Scotland, and most of all in the Universities, a course of independent philosophical thought—continuous, yet with a common character and tendency—so marked as to entitle it to the name of a school, and to make it influential in other countries, as, for example, in France and the United States of America. In this particular, the contrast between the comparative barrenness of the three hundred years of the system of Regenting and the productiveness of the Professoriate does not admit of dispute; and it might be added that, so far as the discipline of the student in Philosophy is concerned, there can be nothing more influential than a lucid lecture and the following, from day to day, of a clear, orderly, and consecutive train of thinking.

It is not my purpose to make any invidious comparison between the English and Scottish Universities; but I may point in this connection to the retention, almost exclusively, of the tutorial or regenting system alike in Oxford and Cambridge. As has been said, "down to the present day the College tutor at Oxford and Cambridge is theoretically instructor in all subjects, however heterogeneous and dissimilar".* If, instead of *theoretically*, we read *actually*, for the tutor is not *de jure* the instructor—the common or public instructor of the University—this statement is indisputable. We may add that the English system retains also the material of book-teaching for the Degree, which was a main feature of the old regenting arrangement. It would not be straining an inference if we were to connect as an effect with these two causes, the admitted absence of original thought in the form of contributions to the progress and the literature of Philosophy in the history of those Universities.† The system of the Tutor or Regent is one that must always be dependent for its *pabulum*—its thoughts, in a word—on sources extraneous to itself; and it is likely to be wholly satisfied with

* *Westminster Review*, No. xcviii., p. 342.

† Of late, in both Universities, there have been signs of awakening original power in Philosophy. It has no root, however, in any foregoing thought in either University; its inspiration is entirely foreign, and it is the outcome of individual force, not of the system.

this supply. What will 'pass' men for the Degree, or get them Honours, is the goal of its ambition. It looks simply to what 'pays' in the form of University *imprimatur*.

But a very important question arises, affecting the history alike of Philosophy and Theology in Scotland, *viz.*, What were the materials of this system of Regenting? What were the books and treatises, the ideas of which were constantly, persistently, and even authoritatively impressed on the youth of the country for nearly three hundred years?

The ancient record of the Faculty of Arts in Glasgow gives us an interesting glimpse into the subjects of instruction in Philosophy at an early period after the constitution of the University, in the reign of James II. In 'the old art of Logic,' the ordinary treatises were "Liber Universalium Porphyrii, liber Praedicamentorum Aristotelis, duo libri peri Hermeneias" [*Περὶ Ἑρμηνείας*, in a Latin translation]; in 'the new Logic', "Duo libri Priorum [Analyticorum], duo Posteriorum [Analyticorum], quatuor ad Minus Topicorum, scilicet primus, secundus, sextus et octavus, duo Elenchorum". In 'Philosophy,' they were "Octo libri Physicorum, tres de Coelo et Mundo, duo de Generatione et Corruptione, tres libri de Anima, De Sensu et Sensato, De Memoria et Reminiscentia, De Somno et Vigilia, septem libri Metaphysicae".* Among the extraordinary books, with regard to some of which the Faculty might exercise discretion in the examination, there are:—The text of Peter Hispanus "cum Syncathegorematicis, tractatus de Distribucionibus, liber G[ilberti] Po[rretani] Sex Principiorum"; in Philosophy, "Tres libri Metheorologicorum, tractatus de Sphaera sine dispensacione, sex libri Ethicorum, si legantur perspectiva, algorismus et principia geometriæ," &c.†

A scrutiny of the list indicates exactly the progress of Philosophy in Europe at the time. The *Vetus Logica* here referred to comprised the *Isagoge* of Porphyry and those portions of the *Organon* of Aristotle which were known and studied in Western Europe up to the middle of the twelfth century (about 1142). They were all that were known even to Abelard, at least in his days of lecturing; and they were known to him only in the Latin translations of Boethius. They referred mainly to Terms and to the Predicables,—to Definition, Division, and Classification, and certain grammatical analyses. The *Nova Logica* was an advance on the old, and eagerly hailed by the scholars of Europe. It represented the other parts of what was afterwards named the *Organon*, recently brought to Western Europe as translations into Latin from the Arabic of the Moorish Univer-

* *Munimenta*, II., 25, temp. Jac. II.
† *Munimenta*, II., p. 26.

sities of Spain, and partly also from Syria and the East. To the theory of Terms and Classification, it added the valuable principles of Syllogistic and Demonstration, and a theory of Fallacies. These were properly regarded as parts of Logic, or the Science of Method—the Instrumental Science—and marked off from 'Philosophy,' which comprised Physics, Astronomy, and what we should now call Psychology, and Metaphysics. The whole works of Aristotle were thus comprehended in the curriculum of study, a body of thought and knowledge which was not within the reach of any one in Western Europe until the time of Alexander de Hales (1245), and which was not spread over the continent until the period of the writings of Albertus Magnus (d. 1280).

The reference to the text of Petrus Hispanus with the *Syncategorematics* is also significant. The text is, of course, the *Summulae Logicales*, a work of the thirteenth century. It is divided into seven tractates, the first six of which may be regarded as representing both the 'old' and the 'new' Logic; while the seventh section or tractate, on the properties of Terms, contained an addition to these in the shape chiefly of grammatical discussions, and was known as *Logica Modernorum*, or Modern Logic, as opposed to the *Logica Antiqua*, which included both the *Logica Vetus* and the *Logica Nova*. For the close student of the development of Philosophy and Theology in the Middle Ages—and we are now in great measure the heirs of the language and the discussions of that epoch—these points, small as they appear, are of deep interest. The grammatical discussions introduced into Logic by Hispanus indicated the new nominalistic tendency—a protest against an abstract notionalism—which, developed subsequently through Duns Scotus and William of Occam, led to the severance of Philosophy and Theology. This meant the setting up of a portion of knowledge, that regarding the Trinity, the Incarnation, Immortality, &c., as truths of Faith indemonstrable by Reason; and this led to new efforts to bring Philosophy and Theology into unity. As Nominalism naturally resulted in sense-impression as the last criterion of reality and truth, the question at once arose as to whether these truths of Faith had any warrant but that of dogmatic authority—whether they were to be regarded as having a scientific or philosophical basis. We can readily see here the forecasting of that Modern Philosophy and Theology which began with Descartes.

The *Organon* and the other works of Aristotle continued to be the staple of instruction in the Universities of Scotland, all through this and the succeeding century. In fact, the prevailing influence of Aristotle continued through the whole time of the Regents down to the final institution of the Professoriate at

the commencement of last century. But it gradually ceased to be exclusive. Up to the period of the Scottish Reformation it was absolutely dominant, and its power was only partially broken by that event. The Universities themselves with which Aristotle and the old Church were associated, suffered greatly both before and after 1560. Indeed, the type of the old mediæval University may be said to have ceased to exist in Scotland after the Reformation. The system of regenting as opposed to the professoriate was nearly all that remained of the old organisation. When Glasgow and Aberdeen were restored, there was a considerable change for the better in the subjects of instruction. Through the influence of Andrew Melville and Arbuthnot, a new life was breathed into Glasgow, St. Andrews, and Aberdeen. Melville inspired Arbuthnot; and Melville may be taken as the type of the new spirit of the time. He represented the new religion, the reviving classical culture, knowing Greek, Latin, and Hebrew, and while he was alive to the new influences in Philosophy, he was considerate enough to recognise the value of the old. Into Glasgow, in 1574, he introduced Greek, and in "Morall Philosophie" he taught besides the Logic of the time, the *Ethics* and *Politics* of Aristotle, the new *Dialectic* of Ramus, the *Rhetoric* of Talaeus, the *Offices* and *Tusculans* of Cicero, and certain of the *Dialogues* of Plato.* Henceforward, Philosophy in the Scottish Universities meant a greater breadth of study and culture. We see the beginning of those æsthetical inquiries which afterwards resulted in such books as Campbell's *Philosophy of Rhetoric*, and the writings of Gerard, Hutcheson, and Blair. James Melville, who continued the teaching of his uncle in Glasgow, tells us that he himself was the first Regent in Scotland who read Aristotle in the original. Up to that period, 1575, the philosopher was known only in the translations of Boethius, and in the Latin versions from the Arabic and partly from the Greek of the scholars of Constantinople. After the time of James Melville, we find express injunctions for the reading of Aristotle in the original, and its *viva voce* exposition by the Regents. The influence of Melville and Arbuthnot on Glasgow and Aberdeen was felt in those Universities for the best part of half a century; but there can be no doubt that the Scottish Reformation was not favourable to the progress of letters or philosophy either in the Universities or the country. The leaders of the Reformation were learned alike in Classics and in Scholastic Philosophy. But their successors gradually narrowed to a form of religious thought, which set authority as high as the old Church itself, and re-acted badly on the cul-

* See James Melville's *Diary*, p. 38.

ture of the times. The Universities were 'purged' of all adherents of the old faith, and many cultured men were sacrificed, probably as a rough necessity, to the cause of civil liberty. Yet, had the scheme of Knox been carried out, and any considerable part of the endowments of the old Church been given to the Universities at the Reformation, letters and philosophy would have suffered but little in the long run. As it was, the lands of the Church which were truly national property, the offerings of the piety and the fears of four centuries, were appropriated under the convenient process of 'Commendation,' by a rapacious and illiterate baronage to their own purposes, in a self-constituted Parliament. The only endowments of the Regents, while acting as teachers, had been their Church benefices; and as these were no longer available, the University offices fell in emolument and in attraction for capable instructors.

Then in the succeeding century, during the time of Charles I., there arose those civil and theological contentions under which neither letters nor philosophy could be expected to thrive. Yet to the Assembly of Divines at Westminster (1643), where the theological debates culminated, and fermenting ideas were crystallised, Scotland sent its fair proportion of able and learned men. There Henderson and Gillespie showed, as Rutherfurd did at home, that the characteristic tendency of Scholastic Philosophy—the application of Dialectic to Theology—was still vital in Scotland. For the fervid zeal which inspired the great and subtle debaters of the period from 1638, through the Westminster epoch, and down even to the Revolution of 1688,—the Covenanters, the Engagers, the Remonstrants, the Resolutioners, —was pointed to a sharp edge by the Dialectic of Aristotle, as it had been learned in the Universities of the country. Nor can it be disputed that the theological formulas, adopted by the Scottish Church and Estates of the time, show evident marks of the application to Christian doctrines of the dominant and somewhat verbal metaphysics of the age.

In the General Assembly of 1639, in which the Covenant was re-affirmed and the covenanting party was for a second time triumphant, it was resolved that "all masters of Universities, Colleges, and Schools, all scholars at the passing of their Degrees, &c., subscribe the same".* This was pretty thoroughly carried out by a Commission of Visitation between 1639 and 1642, which was employed to ascertain "how the doctrine is used by their Masters and Regents, and if the same be correspondent to the Confession of Faith and Acts of this Kirk". But in truth each dominant party and government in turn applied its test to the Universities; and there was a

* Peterkin's *Records*, p. 208. Burton's *History of Scotland*, VII., p. 81.

similar 'purgation' and deprivation from office of the teaching Masters, by means of the test of the Assurance and Confession of Faith, under William and Mary, as under the party of 1639. Both the Church and the Parliament sought to control the subjects and matter of teaching—especially in Philosophy. There was no doubt a profession of consulting with the Masters as to course and subjects of study; but the real power lay with the General Assembly and the Estates. They reserved the right, real or assumed, of final judgment and determination both as to subjects and doctrines of Philosophy.

The Commission of Visitation of the General Assembly, of date 3rd August, 1640, recommended, on the suggestion of the Masters of the University of Glasgow, "that, the first year, beside the Greek tongue, there be a compend of Logic taught; the second year, beside the ordinary task (*i.e.*, Logic), Περὶ Ἑρμηνείας be taught, with the elements of Arithmetic; the third year, with what used to be taught (*i.e.*, Ethics), that the fifth and sixth Books of Aristotle's Ethics be gone through, with a compend of Metaphysics, and that Arithmetic be proceeded with, and Geometry taught; the fourth year, with the ordinary task (*i.e.*, Physics), Aristotle's book De Anima".*

In 1647-48 the Universities, feeling apparently the inconvenience of the power, nearly absolute, which the Assembly of the Church assumed over them, and put sharply into practice, formed themselves into a sort of common University Court for the country, to which each University sent commissioners. They met at Edinburgh, and, among other points, resolved that "it was found expedient to communicat to the Generall Assemblie no more of our Universitie afaires, but such as concerned religion, or that had some evident ecclesiastick relatione". The same commissioners adopted measures for promoting a correspondence among them, and a uniform course of study. On the 30th August, 1647, they resolved as follows:—"It is fund necessar that there be a *cursus philosophicus* drawn up by the four Universities and printed, to the end that the unprofitable and noxious paines in writeing be shunned; and that each Universitie contribute thair travellis thairto, and it is to be thocht upon, against the month of March ensewing, *viz.*, that St. Andrews tak the Metaphsiciks; that Glasgow tak the Logicks; Aberdine the Ethicis and Mathematickis; and Edinburgh the Physicks".

Nothing seems to have come of this proposal at this time, or for some years afterwards. The thirteen years of civil and ecclesiastical struggles which followed—marked by the execution of the King, the battle of Preston, the death of Montrose, the battles

* *Munimenta*, I., p. 454.

of Dunbar and Worcester—turned men's minds from *Cursus Philosophici* to matters of another sort. Shortly after the Restoration, in 1664, the idea of a common course of Philosophy was revived. After various negotiations between the Commissioners of Parliament and those of the Universities, a final agreement was come to in 1695. But the Commissioners of the Universities were resolved that none of the compends should be of foreign origin. They tell the Commissioners of Parliament:—"It is altogether dishonourable to the Universities, and the famed learning of the natione, that a course of Philosophy shall be made the standard and course by authority established, which non belonging to any of the Universities have composed".* They further criticise very sharply the existing books and systems of Logic and Philosophy. The existing courses of Philosophy are either not intended and suited for students, or they are in themselves objectionable. "The course that runs fairest is Philosophia Vetus et Nova,† which is done by a popish author, and smells rank of that religion; but therein the Logicks are barren, and nothing of the Topics, the Metaphysicks barren, the Ethicks erroneous, and the Physicks too prolix." Neither the Logic of Derodon nor of Burgersdick is to their mind. "Henry Moor's Ethicks" cannot be admitted. They are "grossly Arminian, particularly in his opinion *de libero arbitrio*". The *Determinationes* and *Pneumatologia* of De Frize [Vries] are too short. Le Clerc is "merely scepticall and Socinian". "For Cartesius, Rohault, and others of his gang, beside what may be said against their doctrine, they all labour under this inconvenience—that they give not any sufficient account of the other hypotheses, and of the old philosophy, which must not be ejected."‡

Accordingly, the University of St. Andrews was appointed to draw up the "Logicks and General Metaphysicks"; to Edinburgh was assigned the "Pneumatologia or Special Metaphysics"; to Glasgow was given the "General and Special Ethics," including Economics and Politics; the two Colleges of Aberdeen had charge of the "General and Special Physicks". The treatises were completed and given in to the Commissioners of Parliament in 1697, who were to have the power of revising and adjusting them. Two of the treatises at least were printed in London in 1701. The one prepared by Edinburgh is entitled *An Introduction to Metaphysicks* (pp. 56); the other by St.

* Printed in *Munimenta, Un. Glas.*, II., 530.

† This, I presume, is the *Philosophia Vetus et Nova* ad usum Scholae accommodata in regia Burgundia olim pertractata. Parisiis, 1681. In four volumes.

‡ Printed in *Mun., Un. Glas.*, II., 531.

Andrews, *An Introduction to Logicks* (pp. 56). The former, like the metaphysical digests of the period, does little more than arrange and define a series of notions. It contains, however, some acute remarks, especially on the terms Finite, Infinite, and Indefinite. The logical compend is based chiefly on the *Logic* of Port Royal. It is fresher and abler than the corresponding tractate on Metaphysics, and discusses well the accepted doctrines regarding Propositions, especially the rules of Quantity and Conversion. After 1701, nothing more is heard of the project; and it had no practical effect on the course of philosophical teaching in the Universities. It failed, as it deserved to do.

These opinions and compends may be taken as the last word of the Regenting system, and of the older philosophical teaching of the Scottish Universities. This system had given a high dialectic culture, and led to accuracy, precision and consecution of thought. That the sensibility was not largely cultivated, or the imagination enriched, was no inherent fault of the system itself. The branches of studies which should have provided for these important purposes, were either not existent, or they were not fully recognised. It accomplished at least what was its proper aim: that it was too exclusive, was to be charged to the general arrangements of the Universities. Its defect as a system of thought was that it had gone chiefly in one groove of study —a circle without forward progress. Advance of theory upon theory there was none; and many of the philosophical questions of deepest human interest had been left really untouched. The first half of the eighteenth century witnessed the introduction of the Professoriate, and with it there arose a freer, larger, more philosophical spirit. Ethics obtained a scientific basis and treatment at the hands of Gerschom Carmichael and Hutcheson; and Psychology and Metaphysics assumed a new form in the writings of Reid. This modern period must, however, be left for another opportunity of discussion.

JOHN VEITCH.

(To be continued.)

IX.—CRITICAL NOTICES.

The Functions of the Brain. By David Ferrier M.D., F.R S. With numerous illustrations. London, Smith, Elder & Co., 1876.

In this eagerly looked for work Dr. Ferrier gives a systematic exposition of his own experiments on the functions of the brain, with a critical digest of the results of inquiry into the cerebro-spinal system generally. Struck, as every one must be, with the discrepancy and even glaring contradiction among the results obtained by different inquirers, he yet contends that by carefully directed experiments on animals the foundations of a sure knowledge of the brain-functions can be laid. Accordingly, though he allows that much still remains to be done, he does not hesitate to put forward a body of results, original and collated, which are by no means wanting in definiteness.

The book as a whole cannot but enhance Dr. Ferrier's reputation as an investigator of remarkable acuteness and power. While following with great pertinacity his own very engrossing line of enquiry, he has managed to keep his eye upon the work of contemporary investigators at home and abroad, at least such as bears most directly upon his own. He has, moreover, by intelligent psychological study, fitted himself to probe questions which the most accomplished physiologists that are nothing more are apt to pass by or misunderstand. His physiological results have been obtained with great skill, and, whatever may be said against his interpretations, they are at once clearly conceived and forcibly argued. It is little to say of both that they must henceforth be reckoned with, by psychologists as well as physiologists, for any doctrine of brain in relation to mind.

The first three chapters, dealing with the structure of the brain and spinal cord and the functions of the cord and medulla oblongata, contain nothing particularly new, and may be passed over with the single remark that the author by decisively rejecting the notion that up to the medulla there is anything but "non-sentient, non-intelligent, reflex mechanism," enables the reader to anticipate with some probability his view of the working of higher centres short of the highest. He does, in fact, as the occasion arises, conclude of each higher centre in succession that there is no evidence of its action having a subjective phase till we come to the cortical substance of the brain itself, where the subjective concomitant seems too apparently present for any argument to be thought needful. It should, however, be noted that in his arguments he takes little or no account of the view that there are unconscious and semi-conscious states that may still be called mental or subjective, and are presumed to be in relation with the neural processes of lower centres. In so doing he might, doubtless, plead the example of not a few psychologists ; still one could wish that a view which has received not a little support from physiologists had been considered by the way.

When he reaches the mesencephalon (corpora quadrigemina with pons) and cerebellum, Dr. Ferrier is first called to compare the varied researches of others with original (not merely testing) experiments of

his own. The centres just named are in relation not only with the multitude of efferent nerves ending under the skin or in deeper-seated parts, but also with the visual and auditory nerves of special sense : and there is given (in ch. iv.) a very careful and distinct account of the variety of impressions that are received and transformed into complicated motor impulses after removal of the cerebrum in animals. It is true that, as the grade of animal life is higher, the action of the lower centres is less independent, and the disturbance of their function on removal of the hemispheres is greater. Still the evidence forthcoming from experiments on animals, supported as they are by clinical observations on man, leaves little doubt that the mesencephalon and cerebellum are specially involved in the three great motor functions of equilibration, co-ordination of locomotion and instinctive expression of feeling. Dr. Ferrier's own experiments, by electrical irritation of the optic lobes in animals, seem to establish that the corpora quadrigemina (with the pons) are concerned in all these functions, but more especially the last two. The cerebellum, by the same means, appears as the great centre of equilibration, dependent as this function is on the reception of extremely varied impressions, tactile, visual and auditory (from the semi-circular canals). At the same time, the cerebellum is not so exclusively possessed of this function as that the cerebral hemispheres do not participate in it, and thus equilibration may be maintained in spite of cerebellar decay, especially when this is gradual. There is no evidence (any more than for still lower centres) that the cerebellum, great and developed as the organ is, has for itself aught to do with conscious sensation or voluntary emotion. Neither has it any relation (as was supposed) to the sexual function.

Passing now to the cerebral hemispheres, the treatment of which occupies two-thirds of the whole work, Dr. Ferrier first explains the methods which, as practised by Hitzig and himself, may be said to have opened a new era in the history of brain-investigations. He sufficiently justifies his own method of faradisation by the side of Hitzig's galvanisation, and then defends their joint conclusions against the objections urged by various later experimenters. The defence is too perfunctory considering the eminence of some of the objectors, Hermann not being noticed at all and Dr. Burdon Sanderson being only partially met; and this is the more to be regretted, because the original position is one for which not a little can be said. When it is uniformly found that electrical stimulation of contiguous small areas of the cortical substance results in perfectly distinct movements of limbs, &c., it seems impossible to doubt that the areas (or some of them—more exactly determined by a supplementary process) are quite specially concerned in the actuation of the movements ; and they may not improperly be called motor centres, as the ultimate seats whence the different motor impulses proceed, if none higher can be assigned in the whole nervous system and it is not denied that centrifugal fibres conduct downwards from them to lower centres, and so to the muscles. It is the fact, too, as Dr. Ferrier does not fail to urge, that such an interpretation of the experimental phenomena only bears out

the clinical conclusions previously forced upon Dr. Hughlings Jackson in his protracted study of localised convulsive movements in man. We need have no hesitation, then, at least in taking the experiments as a clue to the resolution of the functions of an organ which else in its complexity quite baffles scientific analysis, and may now proceed to see how far Dr. Ferrier's methods carry him.

He first offers a simple record of the results of electrical irritation applied to the hemispheres and to the basal ganglia (corpora striata and optic thalami) in a great variety of animals from monkeys to frogs and fishes. The irritation, it is now well-known, as applied at different parts, more or less definitely limited in each animal and homologous in the various kinds, results in movements special or general, or in nothing at all that is manifest. Then arises the question of interpretation. Movements, as Dr. Ferrier says, "may be the result of some conscious modification incapable of being expressed in physiological terms, or they may be reflex, or they may be truly motor in the sense of being caused by excitation of a region in direct connection with the motor parts of the crus cerebri." To decide then, in each case, what is the real character of the movements determined from excitable areas, or to judge what may be the function of the regions that are not excitable, other experimental light is wanted. Dr. Ferrier accordingly resorts next to localised extirpation (chiefly by cautery), and in order to have results, as nearly as may be, applicable to the human brain, he operates chiefly on monkeys with brains approximating to the human type.

He finds, then, from both processes together, that while there is a region that may be described generally as bounding the fissure of Rolando (more particularly the ascending frontal and parietal convolutions with the postero-parietal lobule), the destruction of which causes complete motor paralysis of the other side of the body without loss of sensation, there are other regions the destruction of which causes loss of sensation without affecting the powers of movement. These latter areas, or sensory centres as Dr. Ferrier calls them, lie for sight and hearing (angular gyrus and temporo-sphenoidal convolution respectively) just behind the great motor region; for taste and smell (apparently together at the base of the temporo-sphenoidal lobe) below the others; and for touch (hippocampal region) on the inferior convoluted surface where it turns inwards. The "sensory centres" with the more forward "motor centres" occupy the whole median region of the brain, corresponding with the areas excitable under electrisation. Behind are the occipital lobes bounding the hemispheres backwards, and these yield no positive result upon stimulation, but destruction of them appears to Dr. Ferrier to involve the loss of organic or systemic sensibility. On the other hand the extreme frontal convolutions, which also are not excitable by electrical stimulation, appear when destroyed to carry with them the power of attentive and intelligent observation or the controlling functions of intelligence. As for the basal ganglia, the optic thalami prove to contain the upward paths of sensory impressions, and the corpora striata the downward paths of

motor impulses ; and the two are so connected as to have a certain independent action, apart from the hemispheres, especially in animals lower than the monkey ; but they are in no case sensory and motor centres like the convolutions.

In this summary statement, which seeks to bring together the salient points of Dr. Ferrier's view of the different parts of the brain, it is the doctrine of definite sensory (and motor) centres that most calls for remark. His view of the basal ganglia needs to be strengthened by farther research, anatomical and physiological, though it seems not improbable, founded as it is on original experiments and acute criticism of extant results. As regards the functions of the occipital and frontal lobes, his views require much more elaboration before their psychological import can be seriously estimated : indeed he does little more than throw out a suggestion as to the occipital lobes, one too that is contradicted, or at least not supported, in a striking instance to which he very fairly gives prominence ; while his supposition as to the working of the frontal lobes has none of the precision that marks the corresponding doctrine of Attention (to which he refers) advanced in Wundt's *Physiologische Psychologie.* But there is certainly no want of definiteness in his assertions respecting the sensory and motor centres lying between the two uncertain regions. Neither, it must be said, is his method of procedure in determining which of the excitable areas are properly motor, and which are only indirectly motor (thence, by inference, sensory), at all wanting in circumspectness. If it is the case that the motor powers remain intact when any part of the brain except a certain region is destroyed, and that they vanish when this region is destroyed and this only ; again, within this region, that particular movements are maintained or lost as certain definite areas and these only are left intact or destroyed ; while, once more, direct electrical stimulation of the same region and its included areas results always in the very movements, general and special, that are lost by their destruction ;—one does not see how the conclusion is to be avoided that this region and the areas within it are the true centres whence movements generally and the particular included movements are, as movements, originated. What meaning is there else in the notion of 'centre' applied to the brain, when (as before said) there is nothing higher upon which the cortical substance is dependent? Take now a particular area lying just behind. Let it be found that stimulation of this results in certain movements involved in the normal working of a particular organ of sense—say the ear. Let it then be found that, this area and this area only being destroyed, complete deafness ensues, but the animal retains all its other senses and its powers of movement unimpaired. Again the conclusion is inevitable that here is a part of the brain which is, to say the least, involved in the sense of hearing as no other part can be, and which may even, with some show of propriety, be called a centre for hearing because there is no higher seat in the cortical substance to which the sound-impressions are carried as they are carried to this one. Of course it should only be after a most varied series of experiments that

any scientific mind could dream of making such an exclusive statement, the circumstances that have to be eliminated being extremely perplexing, whether as arising from the fact that there are two hemispheres with a supplementary if not compensatory action in each as regards the other, or from the fact that presence or absence of sensation can after all only be inferred from motor re-actions as present or absent. But a candid reader will hardly deny to Dr. Ferrier the credit of having been fully aware of the experimental difficulties, and of having at once honestly and skilfully faced them. What then is to be made of his assertions? Does he prove his case either at all or in the sense for which he contends?

The very definiteness of the view—that extreme simplicity which will make its fortune—is in truth what most arouses suspicion. Not only do other inquirers find direct experimental evidence that the cerebral functions are involved with one another over the hemispheres in the most intricate fashion, but it also seems clear on a variety of grounds that the brain cannot be the simple aggregate that Dr. Ferrier suggests. In the way of direct evidence we have, for example, Goltz declaring, on the strength of new and careful experiments, that removal of *any* considerable portion of the cortex in dogs is uniformly and permanently attended by reduced skin-sensibility, impaired vision, and weakened muscularity on the opposite side of the body.* If this be so, either there is no special localisation of motor and sensory functions, but they are mixed up over the cortex, or at least the different localised areas are much less independent than they have seemed to Dr. Ferrier in the ardour of new discovery. One cannot indeed, in hesitating to go all lengths with Dr. Ferrier, straightway adopt the former alternative and refuse to go with him at all, as Goltz seems to do. His experiments are much too exact and varied to be overturned by a different class of experiments not as yet equally varied or exact: they can be refuted experimentally, one would think, only by some inquirer who will perform them all over again and show that they have been at every step misrepresented or misinterpreted by Dr. Ferrier. And this is hardly to be expected, more especially as there is no intrinsic improbability—rather the reverse—in the view, that impressions received by any organ of sense are all carried up first to a particular region of the cortical substance before they are brought into relation with other impressions and with motor impulses, or are otherwise elaborated in the brain. It may well be that there are special sensory regions in the brain-cortex, and that Dr. Ferrier has given the first rough indication of their locality. But even apart from conflicting evidence, seeing what the brain is, and the work it

* Dr. Ferrier has a supplementary note (to chap. ix.) upon Goltz's experiments and makes light of them, partly on the ground that Goltz was evidently unacquainted with his researches on the brains of monkeys as already published in abstract (*Proc. Roy. Soc.*, 162) early in 1875. It certainly lessens the value of Goltz's paper (reported on *infra*, p. 108) that he makes no reference to Dr. Ferrier's later researches, but that these "satisfactorily account for the phenomena," described by Goltz is more than can be allowed.

has to do, one must gravely doubt whether there are such sensory centres as Dr. Ferrier supposes.

Let it be granted that destruction of the hippocampal region in one hemisphere abolishes tactile sensibility in the opposite side of the body. It is not therefore proved that only touch is thereby affected, or that all tactile representations are blotted out of mental being, as Dr. Ferrier conceives of his "sensory centre" (chap. xi. *passim*). Peripheral impressions may be utterly prevented from coming into consciousness by the cortical lesion; but it does not follow that the last act of the nervous process involved in a conscious sensation of touch is naturally consummated there and nowhere else in the brain, or that in all that region there is no work done but such as (subjectively) we call touch. On the one hand, the cortical substance is thick and histologically by no means uniform in the direction of its thickness: what may be transacted in or through the hippocampal area besides what there happens for touch, Dr. Ferrier's experiments do nothing to tell, except only that other sense-impressions are not there directly cut off. On the other hand, touch (especially if understood, as Dr. Ferrier understands it, to cover besides skin-sensibility of every kind all that others mean by the muscular sense) is a function so extremely wide, being commensurate with the whole of objective knowledge presentative and representative, that to think of it as localised in one single convolution of the whole brain is almost ludicrous. Even to suppose that all tactile impressions, coming by such a multitude of nerves, pass first to this one place is a considerable draft on belief. But assuredly the whole work of touch is not so transacted there as that the area can with any propriety be called the exclusive centre of the sense. And the like must be said of the other all-pervading sense of sight which Dr. Ferrier would locate in the angular gyrus as a definite centre; as also of the sense of hearing, related as this is, through being involved in speech, to all that is most general in knowledge.

On the whole, then, it seems impossible to allow that Dr. Ferrier has done more than take a first step towards discovering the relation of different parts in the brain; nor is it possible to say thus far that much psychological insight is likely to be gained upon the new line of inquiry. Certainly, although he gives us in chap. xi. a view of "the hemispheres considered psychologically" which is much above the level of common physiological opinion, it does not appear to depend specially upon his own investigations. And that we are now put in the way to obtain a truly scientific phrenology, embodying what was true in the old phrenological doctrine (the notion of definite organ for definite function) but based, as that was not, upon exact anatomical and physiological inquiry in relation to exact psychological analysis—this, which is becoming a fond conviction with many, is, to say the least, a very premature hope. In some respects, the old phrenology was itself more scientific than that which would now be substituted for it. The 'faculties' it supposed were, many of them, such as might well be conceived to be distinctively organised in the brain; though psychological analysis had little difficulty in proving them to

be not ultimate functions but only varied aggregates of the true elements of psychical life. Far otherwise is it with the elements themselves, among which there need be no scruple to rank the various kinds of sensation. Differentiated as the organs of the senses are at the periphery, and distinct as the nervous channels of each must be till the convolutions are reached, sensations themselves as conscious states (each sort appearing at the presentative, representative, and re-representative stages, and all being liable to be associated or fused in every possible variety) can neither be supposed to be consummated at their first cortical station, nor be either traced or thought likely to be traced farther by any experimental means yet devised.

No space is left to deal with the many other points of psychological interest raised in Dr. Ferrier's important work; chief among them being his treatment of the so-called Muscular Sense, where he takes ground very decidedly against those who attach the consciousness of activity directly to the outgoing of motor impulse from the brain, apart from any backward report (by afferent nerves) of its effect in the muscles. I do not think he overthrows this doctrine, or by any means establishes the contrary one, which he advances in chap. ix., and then not seldom surrenders at the most critical junctures in chap. xi. But there is not a little force in some of his objections to the doctrine, and both these and the new light he throws upon the subject by experiment deserve the most careful consideration. This it may be possible to give on some future occasion, and the rather because the subject has become one of the first importance in the psychology of the present day. EDITOR.

The Vocabulary of Philosophy, Mental, Moral, and Metaphysical; with Quotations and References for the use of Students. By WILLIAM FLEMING, D.D., late Professor of Moral Philosophy in the University of Glasgow. Third Edition. Edited by HENRY CALDERWOOD, LL.D., Professor of Moral Philosophy in the University of Edinburgh. London: Griffin & Co., 1876.

Professor Calderwood in a prefatory note says, "The fact that the *Vocabulary of Philosophy* by the late Professor Fleming soon passed through two editions, shows that it has supplied a want felt by those entering upon philosophic study". It would be difficult for any one who had carefully inspected the work to understand what philosophic want it can possibly have supplied. Vocabularies of Philosophy are generally of little value. From the very nature of the subjects which must be dealt with, absolute definiteness of statement is not to be expected. In small compass controverted questions cannot be handled to any purpose; and, as to quotations, it is unfortunately the fact that great writers seldom or never so arrange their doctrines as to render it easy for a vocabulary-maker to extract leading passages. The consequence of course is that the quotations are generally taken from abridgments or inferior compendia, while it is at the option of the compiler to insert passages which flatly contradict one another.

There seem then to be objections to any Vocabulary of Philosophy; but, waiving them, it is undeniable that the compilation of a vocabulary which shall be of real service to students requires great care and rare qualities in the compiler. Such a work should at least be thoroughly accurate both in the all-important respect of philosophic doctrine and in the minor respect of references whether to books or authors. It should, further, be careful to give the definition of any peculiar term in the words of its author, and should rigidly exclude obsolete or unnecessary terms. In all these indispensable qualifications the present *Vocabulary* is singularly deficient. It is full of inaccurate references and misprints; it is absurdly wrong in the statement of some historical facts and philosophical doctrines; it seldom or never quotes a peculiar definition in the words of its author; and it includes a multitude of terms that have no significance whatsoever in philosophy. These are heavy charges and can only be substantiated by detailed reference. The following are some of the principal blunders that have come under my notice: many more might be added under each head.

I.—Misprints or minor Errors:—P. 6, Dobrisch; p. 28, Tyler; p. 29, Sematologia; p. 31, Kant's Antinomies badly stated; p. 50, Trendelenburg *Notæ in Arist.* (and the note from Trendelenburg wrongly translated); p. 59, Bain's [Bacon's] Works; p. 66, Cænesthesis; p. 69, Whatley; Rosencranz; p. 84, Savary; p. 93, Bouvier; Jaques; p. 103, privity; p. 213, *Nov. Org I.* ch. [aph.]; p. 262, Burke *Defence* [*Vindication*] *of Natural Society;* p. 322, Baden, Pervill [Baden Powell]; p. 334, Abailaird; p. 391, universality, particularita; p. 441, Mackintosh's *View, &c.;* p. 474, *Critique du Judgment;* p. 479, Stœudlin, *Hist. des Opinions, &c.*, [Stäudlin, *Geschichte &c.*]; Tisset; p. 498, Boeham [Boehme]. Let these few instances suffice by way of sample.

II.—Errors due to Dr. Fleming:—

P. 27. "Analytics is the title which in the second century was given to a portion of the Organon or Logic of Aristotle." Which second century? Does not Aristotle refer to the *Analytics* by name?

P. 27. "Animism is the doctrine of the *anima mundi* as held by by Stahl." Can Stahl's Animism be identified with the doctrine of an *anima mundi?*

P. 41. "In the third century Porphyry wrote Εἰσαγωγή, or an *Introduction to Logic.*" Is *Introduction to Logic* the title of Porphyry's *Isagoge?*

P. 51. "The other form of Atheism in ancient times was that of Thales, Anaximenes, and Heraclitus, who accounted for all things by the different transformations of the one element of water." Did all three hold the same principle, water? Can they fairly be called Atheists?

P. 53. The article Atomism is one of the worst in the volume. (1) The theory is stated as if due to Leucippus: "Leucippus considered the basis of all bodies to consist of extremely fine particles." (2) The followers of Epicurus are said to have been the first to call

these particles atoms. Is this correct? (See Arist. *Phys. Ausc.* 265, b. 29.) (3) Epicurus is said to have added nothing to the doctrine of Leucippus and Democritus.

P. 70. Category is nearly as bad as Atomism. The explanation of what the Categories are is simply ludicrous, while the historical notices are most inaccurate. To take only the latter :—(1) The Stoic Categories are wrongly given. (2) Descartes is said to have two Categories, the absolute and the relative. (3) The *Port Royal Logic* is said to establish *seven* Categories. On what this assertion is based I cannot tell. The seven mentioned in the *Port Royal Logic* (I. c. 3) are referred to "some philosophers," and are treated with ridicule rather than approbation. (4) Kant's Categories are said to be well known and are enumerated as follows—*Quantity, Quality, Relation, Modality.* Nothing more is said, but the Editor adds a passage from the *Kritik*, which apparently is thought to be a definition of the Categories.

P. 118. We are told that "Aristotle gave the title of *Organon* to his Logic". Did he do anything of the sort?

P. 131. Dialectic is a bad article, bad in every way. How can students learn anything from a book which gives them the following? "The Διαλεκτικὴ of Plato was the method of analysis by means of language, and comprised the field which his successor Aristotle separated into two, *viz.*, Διαλεκτικὴ Logic, the enquiry concerning Method; and Σοφία, Metaphysics, the enquiry concerning being."

P. 132. We are told that "Aristotle says there are two kinds διαλεκτικῶν λόγων, *viz.*, Ἐπαγωγὴ καὶ Συλλογισμός". To the best of my knowledge Aristotle does not say so, and I should be glad to see the opinion extracted from the passages here referred to, *viz.*, *Top.* I. 10, and *An. Pr.* II. 23.

P. 235. Can any one understand the following explanation of what Kant meant by Immanent? "We make an *immanent* and valid use of the forms of the understanding, when we conceive of the matter furnished by the senses, according to our notions of time and space." What Prof. Fleming understood by this it would be hard to conjecture.

P. 282. Logic is mangled to a frightful extent. To go over all the errors contained in the article would be wearisome. We are told "The word *logica* was early used in Latin; while ἡ λογική and τὸ λογικόν were late in coming into use in Greek. Aristotle did not use either of them". On the following page we have the sentence: "At the beginning of the *prior analytics* Aristotle has laid it down that 'the object of *logic* is demonstration'". Both pieces of historical information are inaccurate; how they are to be reconciled, supposing they were correct, is hard to see.

P. 334. *Universalia in re* is said to be the watchword of the Conceptualists.

P. 359. "Sir W. Hamilton employs *perception* to denote the faculty, and *percept* the individual act of perceiving." Is this to be found in Hamilton?

P. 375. The following brilliant definition of Fetichism is given. It is "the worship of anything that strikes the imagination and gives the notion of great power, which prevails in Africa and among savage nations in general". If this be so, I fear we must come under the wide category of "savage nations in general".

P. 401. Surely the Scottish student might expect to have an accurate account of the Quantification of the Predicate. There is not a word in the article to explain what is peculiar in the doctrine; we get only the old rules for the distribution of the predicate in affirmative and negative propositions, while it is vaguely said: "The Quantification of the Predicate is much insisted on by Sir W. Hamilton, *Lects. on Logic*, i."

The above are for the most part positive errors. For specimens of absurdity the reader may be referred to the heads:—

(1) Catalepsy—where appears the following naïve piece of criticism: "The paradox of Berkeley may be confuted in two ways:—first, by a *reductio ad absurdum;* second, etc." Surely this is better than the 'grin'. If Berkeley's doctrine can be reduced to absurdity, no further refutation is necessary. The second argument, it may be mentioned, is a fine example of *ignoratio elenchi.*

(2) Parthenogenesis—which runs *verbatim* thus: "Parthenogenesis, or the successive production of procreating individuals from a single ovum, is the title of a work by Richard Owen, F.R.S., Lond., 1849".

(3) Scholastic—where a new cause is pointed out for the fall of scholasticism. "The taking of Constantinople by the Turks, the invention of printing, and the progress of the Reformation, put an end to the scholastic philosophy. Philosophy was no longer confined to the schools and to prælections. The press became a most extensive lecturer, and many embraced the opportunities offered of extending knowledge."

(4) Stoic; (5) Suicide.

III.—No care is taken to give explanations of particular terms in the words of their authors. This is particularly noticeable in the cases of Leibniz and Kant. On the words Apperception and Monad, why is the student given Dr. Reid's account, and not referred to Leibniz himself? For Kantian phraseology, Haywood is generally quoted. Surely a *Vocabulary* published in 1876 ought never to refer the student to a book which was bad even for the time at which it was written, and which is now completely set aside by other works. If Kant himself is not to be consulted, there are very fair lexicons to his works published in Germany. It should be added that it is no uncommon practice with Dr. Fleming to give in French the Latin or German titles of philosophical works. The reason is perhaps not far to seek, but for the student English would be decidedly preferable, if the originals must not be given.

IV.—Of useless or obsolete words, the following may be taken as specimens: Adage, Adept, Adoration, Adscititious, Affinity, Apologue, Apology, Apophthegm, Autocrasy, Blasphemy, Brocard, Chrematistics, Civility, Consanguinity, Divorce, Economics, Gnome, Metaphor, Me-

tonymy, Monogamy, Palætiology, Parable, Paradox, Philosomatist, Proverb, Sciolist, Sciomachy, Zoonomy.

It cannot be said that the errors are in all cases due to Dr. Fleming. The Editor himself is too often at fault. I do not think that any Kantian scholar would accept the account given (p. 72) of Kant's doctrine of Cause; certainly he could not accept the explanations of the important terms Constitutive (p. 110), and Regulative (p. 418). Constitutive, according to Prof. Calderwood, "is applied to knowledge verified in experience, knowledge whose object is found in the concrete". I venture to say that no such doctrine is to be found in Kant, and that such an opinion is wholly foreign to the Kantian system. It is too much to be told that "space and time are only mental forms regulative of the mind in its use of the sensory," and to be referred to a passage in the *Kritik* which emphatically states that they are not regulative, but constitutive. And what is to be made of this statement (p. 504)? "In Kant's sense, transcendental applies to the conditions of our knowledge, which transcend experience, which are *a priori*, and not derived from sensative *(sic)* reflection." Dialectic (p. 130) is defined in a most arbitrary way, in a way for which there is not the slightest warrant. Spinoza's *Ethics* is called a Dialectic. German philosophers are credited with a view of Logic (p. 282) which a large proportion of them would reject: a clause is introduced into the definition of Miracle (p. 307) which is certainly open to question; and I doubt if Utilitarians would quietly accept the dogma (p. 343) that their moral theory involves necessitarianism.

If students are to have a *Vocabulary of Philosophy*, such a work ought to be drawn up with the utmost care. It is utterly worthless, worse than useless, if it be inaccurate and slovenly like this one.

ROBERT ADAMSON.

Vorschule der Æsthetik, von GUSTAV THEODOR FECHNER, Leipzig, 1876.

The announcement in the year 1871 of a contribution to experimental aesthetics from the pen of the author of the classic *Elemente der Psychophysik* excited, as the present writer well remembers, a good deal of curiosity in Germany. A people trained in an exclusively metaphysical discussion of art-problems might naturally be a little puzzled at the application to the subject of a method so thoroughly positive and exact as that unfolded in the *Elemente*. This essay in inductive aesthetics was a very modest one, being confined to the testing, by means of a convergence among distinct methods of observation and experiment, of Zeising's law of the Golden Section (namely that the division of a linear magnitude into two parts according to the formula $\frac{a}{b} = \frac{b}{a+b}$ is the one beautiful proportion for the eye). This law and its experimental verification are re-discussed in the present work. Fechner concludes that the Golden Section has a

special value though not the unique rank among visual proportions claimed for it by Zeising. Whatever significance the thoughtful reader may have been disposed to give to this result, he could not but be impressed by the excellence and promise of the method thus introduced into the region of aesthetic discussion.

In the two volumes of the present work Fechner has carried on his aesthetic researches to a much further point. The book does not profess to be a systematic treatment of aesthetics, but, as its title (borrowed from Jean Paul) suggests, to prepare the way for such a systematic construction. The aim of the writer is well set forth in the first two chapters. He defines his method of inquiry as that which works from below upwards, whereas in the prevailing German system of aesthetics the direction is exactly reversed. He does not wish to exclude the latter mode of construction, he merely contends that here as in physics the employment of the method from below is "one of the most essential pre-conditions" of a construction from above. With respect to the fundamental conceptions of aesthetic phenomena, Fechner is quite clear in referring all value in beauty and in art to a pleasurable effect, and he seeks to connect the idea of aesthetic worth with that of good in general interpreted by a strictly hedonistic, or, as he calls it, eudæmonistic formula. This part of the work will probably interest English readers not so much on account of its intrinsic qualities of clearness, penetration, and grasp of subject, as because it expresses the unqualified adoption of a theory of life so familiar in our own literature by a leading representative of contemporary German thought.

After thus paving the way for his researches, Fechner at once enters upon his main problem, namely, the determination of general aesthetic laws or principles. He clearly recognises that such laws if attainable at all must be capable of being brought under psychological principles. He begins by formulating six leading principles as a first instalment to a science of aesthetics. The first is named the principle of the "aesthetic threshold" or "lower limit," the second that of "aesthetic support" or "intensification". Then follow three laws which may be classed together as the highest formal principles, namely, that of "the unifying connection of the manifold," of "truth," and of "clearness". Lastly, we have a sixth aesthetic law under the name of the principle of "association".

The first of these, which might be termed the principle of a liminal aesthetic intensity, is merely an application to the particular effects of pleasure of a universal law of sensibility which the author has fully expounded in his *Psychophysik*. It finds an expression for the familiar fact that conditions which are of a quality to produce a pleasurable impression fail to do so if they are not at the same time of a certain quantity. Yet though a stimulus may be "below the threshold," if it is combined with other stimuli also pleasurable it may contribute an appreciable element to the result. This fact is expressed in the second principle of aesthetic support which is thus stated: "From these non-conflicting concurrences of conditions of

pleasure which of themselves effect very little, there arises a greater, often a much greater, pleasurable result than corresponds to the pleasure-value of the single conditions, or than could be explained as the sum of the single effects. More than this, through a combination of this kind a positive result of pleasure may be reached when the factors are singly too weak to pass the threshold."

It seems probable that this second law might be regarded as a necessary consequence from the first, by supposing that the combination of different sets of pleasurable conditions is equivalent to additions of intensity in one and the same set of conditions. Fechner makes most important use of this second principle in explaining the whole aesthetic effect of an object. More especially he points out that in the case of painting, and still more in that of poetry, elements of sensuous impression which of themselves would afford us but little if any appreciable delight may, by co-operating with the many associated ideas called up by the object, contribute a distinctly recognisable ingredient of pleasure.

In his third principle, that of the unification of the manifold (to which the following principles are very closely related), the writer is dealing with a more familiar proposition in aesthetics. Yet he manages to introduce considerable freshness into the exposition of it. What is more, he gives much greater precision to the principle by determining the extent to which each of its opposite aspects unity and variety may be emphasised to the neglect of the other, the most pleasurable ratio of the unity to the diversity, and the several modes in which each factor may be secured.

The treatment of the sixth principle, that of association, will interest English readers chiefly as placing the influence of association much nearer the point assigned to it by our own writers than where German aestheticians usually leave it. The author, not without reason, accuses his countrymen (with one or two exceptions, as Lotze) of almost wholly overlooking the part played by this "indirect factor" in aesthetic intuition. He illustrates the effect of association by a number of very interesting examples, travelling through the principal regions of art-impression as colour, visual form and tone, and devotes special sections to its influence in landscape and its bearing on the relation between painting and poetry. This part of the exposition is very attractive reading, showing the author's knowledge of art no less than his psychological insight. It is appropriately supplemented by a chapter devoted to an illustration of the influence of the direct or non-associative factor in the impression of music and of the visual arts.

The remaining chapters of the first volume deal with the experimental methods already spoken of, with the place of the idea of fitness in aesthetic appreciation, with the source of pleasure in witty comparisons, riddles, &c., and finally with taste, its varieties, and the laws of its development. The discussion of this last subject is particularly instructive. The conditions which favour the development of taste are carefully laid down, and a very creditable attempt

is made to define good and bad taste in relation to the eudæmonist's standard of value. This chapter may perhaps savour a little of an inclination to subordinate art to a purely ethical conception of life. Yet the idea is well reasoned and forcibly expressed.

The larger part of the second volume is devoted to the consideration of a number of art-problems which admit of treatment by means of the fundamental conception of art and the principles already defined. In this application of his theoretic premisses to circumscribed regions of art-discussion, the author is no less happy than in the construction of the principles themselves. He shows a very intimate acquaintance both with the points most ardently disputed among art-critics, and with the details of art itself, more especially perhaps those of the visual arts. In the opening chapter Fechner raises the question how far a work of art is to be estimated and criticised by help of a fixed conception of art, and makes the important distinction that, though the critic may reason safely from a conception of the function of art as a whole, he cannot safely reason from a notion of what a particular art has to achieve. The one aim of all artistic production is an immediate and adequate pleasurable impression, and even if "a work of art were to be produced which could not be brought altogether under any one of the separate arts, nevertheless so far as it satisfied the general aim of art, one would have to see in it nothing but a gain." Other rules for the guidance of criticism, no less valuable, are arrived at by a similar method.

The bearing of clear and scientific ideas of art on the practical problems which engage artists and their critics is well illustrated in a chapter which deals with the dispute between the assertors of the supreme value of form, and those who lay stress on the content or matter of art. Here the various possible meanings of form and matter in relation to art are carefully distinguished, with a view to define the problem. The antithesis is shown to be at best a rough and incomplete one, and ill-fitted for an adequate critical view of a work of art. Moreover, as might be expected, each of the opposed views is regarded as one-sided and misleading. The careful manner in which both form and matter are defined and analysed into their respective elements of pleasure with a view to assign each its right place in art, can only be understood by a reference to the chapter itself.

After disposing of the dispute between the champions of form and of content, Fechner deals with the other vexed question in practical aesthetics, that between realism and idealism. Has art to aim at a faithful portraiture of nature, or at a representation of an ideal which transcends nature? Here again the author is able by help of his leading conceptions of art to expose the one-sidedness of each of the rival views. The antagonism is bridged over and reconciled simply by a careful and thoroughly scientific discussion of the sources of value both in the imitation of nature and in ideal beauty. In other words, art has to seek truth and to seek ideality just because, and only so far as, each of these is a condition of a total pure and lofty

pleasure. The investigation of the psychological grounds of the value of truth and imitation deserves the special attention of the reader. It is a very valuable contribution to a scientific settlement of art-problems.* On the other hand, the conception of ideality in art, together with its precise value, is closely examined. Also, Fechner discusses the different modes of deviating from nature, which he reduces to three, namely, Idealisation, Symbolisation, and Stylisation, or conformity to the ends of good style. The ambiguity attaching to these terms is well set in light, and a very successful attempt is made to give them a precise connotation, and so to arrive at their proper value as functions of art. The result of this long and interesting investigation seems to be that according to a hedonistic conception of art, truth according to nature must be ranked much higher than is commonly the case in contemporary art. Fechner will probably be accused by many of having a decided bias to realism; yet his argument seems to me perfectly impartial and on the whole thoroughly convincing.

We must pass over certain chapters that invite delay, among which is one on the Sublime not unprovocative of some adverse criticism, to dwell on "a second series" of aesthetic principles too briefly expounded at the close of the work. These consist, like the first series, of laws which have a bearing on pleasure in general quite as much as on art-pleasure. They are psychological conditions of pleasure defined in relation to the peculiar effects of art. First of all come three principles relating to the best order of impressions, namely, that of aesthetic contrast, of aesthetic sequence, and of aesthetic reconciliation. The meaning of contrast as something over and above the result of the single contrasting impressions is well defined, and its conditions laid down. The obvious but aesthetically important observation is made that among sequent impressions the effect of contrast can show itself only in the consequent not in the antecedent. With this proposition there connects itself a second, namely, that a sequence in a positive direction, that is from maximum pain to maximum pleasure, is attended with a secondary pleasure, the result of contrast, while one in a negative direction (from pleasure to pain), is accompanied by a secondary pain: hence the aesthetic law that impressions should proceed in a positive direction. The value of the final reconciling impression, which is formulated under the third principle, is closely connected with this second. Here, however, Fechner seems for a moment to be forsaken by his customary comprehensiveness of view, since he makes no reference to the rather obvious consideration that the concluding impression, say of a tragedy, owes its importance not only to the effect of contrast and to its being

* The present writer will perhaps be forgiven for expressing his pleasure at seeing his own line of investigation almost exactly reproduced by such an authority in method as Fechner. The reader will find that Fechner's treatment of this question, more particularly the determination of the value of imitation as a source of pleasure in art, follows, unconsciously as it seems, the path roughly traced in the last Essay in *Sensation and Intuition.*

anticipated throughout a part of the previous impressions, but also to its being the impression which survives most vividly as an idea, and so most distinctly colours the after-recollection of the whole chain of impressions.

Next to these principles we have a number of others relating to the intensity and duration of pleasurable impressions, namely, the duration required for the full rise of an impression, the effects of repetition and exercise in improving an impression, the blunting result of undue prolongation and of too frequent repetition of impressions, the effects of habituation in producing a recurring want or desire, and the limit imposed on pleasure through the nerve's liability to exhaustion and the attending sense of fatigue or satiety. These principles are given as psychological truths, and not fashioned into special aesthetic laws. Moreover, they are touched on much too lightly to be of very much value, though the author succeeds in showing the way in which these several influences cross and modify one another. In another chapter we have, with somewhat more fulness of exposition, the important conditions of a certain amount of persistence and of change in the kind of mental activity, as well as a certain quantity of activity and change of degree in activity. Here Fechner teaches that, quite apart from the pleasurable character of the occupation, a certain amount of persistence in an activity once commenced tends to be agreeable, whereas beyond certain limits change becomes desirable. Also an activity is at an advantage when it has a sufficient but not excessive quantity or intensity, and a certain amount of change in the degree of activity is desirable.

After these principles follow others relating to the effects of the manifestation of pleasure and pain, and of what Fechner calls "the secondary pleasure and pain of representation". The "primary pleasure of representation" is that which flows from the act of representation itself, as a perception of unity, the secondary is that which follows from a representation of a pleasure, as another's enjoyment, our own past or future happiness. The conditions which limit and complicate the fundamental effect of ideas of pleasure and pain, namely, that to perceive or conceive pleasure is pleasurable, and so with pain, are set forth clearly and with sufficient fulness. Passing over a chapter on the principle of the aesthetic mean, which formulates the familiar truth that a medium average magnitude in objects, such as experience has rendered customary, is most pleasing, we arrive at a chapter which discusses the question how far all the conditions of pleasure can be reduced to one principle. Fechner thinks that as yet this is impossible except in a very hypothetical way. He is decidedly opposed to basing all pleasure on quantity of nervous energy, and the argument by which he seeks to refute this theory seems to me to be quite conclusive. He then briefly shadows forth the idea worked out in his *Einige Ideen zur Schöpfungs- und Entwicklungsgeschichte*, that all pleasure may repose on harmonious relations of form in the single nervous process or the combining processes, and that this harmonious relation is but a part of those stable arrangements which are the end of nature as a whole.

To conclude, one may safely guarantee the reader no ordinary pleasure in perusing a discussion marked alike by so much scientific impartiality and insight, as well as general appreciation of the aims and possibilities of art. His only regret will probably be that so much that is deeply interesting is touched with a seemingly hurried hand that lacks time to linger and do justice. Yet we must be grateful for all that Fechner's large experience and ripe thought have here given us, not murmur at what is wanting. To show the reader what Fechner's style is like, and that he is not altogether unworthy as a philosophic critic to follow his countryman Lessing, I cannot do better than conclude by making one short quotation. Arguing against the common tendency of artists at present to idealise or prettify all their figures, he writes :—

"In the wedding of a peasant girl, the bride may be represented as a pretty woman ; for why exact from a painter to paint a marriage with an ugly rather that with a pretty bride? One would rather marry a pretty girl, one would rather paint such a one, and see her when painted. Where no interest attaches to a scene, it should not be painted at all, and for the most part the interest in a scene culminates in a person as a centre of relations. Now if the bride is pretty, not only she herself but all her surroundings gain in interest and charm. When however the peasant girl looks not only pretty but also fine, when the bridesmaids and the women looking on are all pretty, or at least have interesting faces, we have no longer a peasant wedding but only the masquerade of one, and all the relations lose in interest and charm through the feeling of unreality."

James Sully.

X.—REPORTS.

Functions of the Cerebrum.—In Pflüger's *Archiv* xiii. 1, Prof. Goltz of Strassburg gives an account (pp. 43) of an elaborate series of experiments he has recently conducted (with his assistant, Dr. Gergens) on the effects of extirpation in the region of the cerebral hemispheres. The special object of the research was to determine how far and in what way there ensues a compensation of function after the removal of parts of the hemispheres. Among previous inquirers the difference of opinion on these points is notorious. While Flourens went so far as to suppose that the least remnant of the cerebrum might suffice for the discharge of the functions of the whole mass, Carville and Duret maintain that the compensation is limited to parts of the same hemisphere, and Soltmann contrariwise declares that loss of the function of one part is made up at the corresponding part of the other hemisphere. Hitzig, again, differs from them all. Ascribing absolutely special functions to quite limited areas of the cortical substance, and these different for the two hemispheres, he can only suppose that restoration of lost function (which supervenes often with great rapidity) is due to the presence of some

unsuspected relic of the original area; thus denying symmetrical compensation between the hemispheres, and denying all but the most strictly limited compensation within the same hemisphere.

Goltz confined his research to dogs, and practised a new mode of experiment (detailed at length in the paper) whereby he avoids excessive hemorrhage, and can maintain an animal alive for months. It consists in washing out by a strong jet of water part after part of the cortical substance, the animal all the while being under chloroform; the greater blood-vessels thus escape rupture, and the animal recovers very quickly from each operation. In this way Goltz has been able to get rid gradually of the whole cortex of one hemisphere and keep the animal alive comfortably for weeks afterwards, while the effects, immediate and remoter, were under observation. These he disposes under three heads: disturbances of (1) Sensation, (2) Vision, (3) Movements. The degree of disturbance increased with the size of the area extirpated, but its character did not, as far as appeared, depend on locality, there being no difference whether the operation took place within Hitzig's 'excitable' region or far back behind it.

(1) By Sensation is meant the skin-sensibility in all its phases, for Goltz does not allow the distinction that Schiff and other physiologists would make out between sense of pain and sense of contact or pressure in the skin. This general skin-sensibility almost all inquirers have believed to be unaffected by destruction of the cerebral convolutions, though it is allowed to be temporarily disturbed by the operation. Goltz, on the other hand, finds that after partial or total extirpation of one hemisphere the animal never (at least as far as he has yet gone) recovers full tactile sensibility on the opposite side of the body, where just after the operation it appears wholly lost. The sensibility may often seem to have returned from the general demeanour of the animal, but careful experiment with pressure of weights shows that the skin on the side affected remains comparatively insensitive. This was clearly manifest everywhere except only on the side of the tongue.

(2) The effect upon Sight is distinctly marked, though it is peculiar. It is known that complete extirpation of both hemispheres (in frogs) does not prevent the performance of suitable movements upon visual impressions, and partial destruction of one hemisphere has commonly been supposed to have none but a temporary effect on vision (of the opposite eye). Goltz finds a permanent effect of a serious kind. The initial total blindness of the (opposite) eye, it is true, passes quickly away, and this happens even if the whole cortex of the one hemisphere has been destroyed; wherefore it must be supposed that each eye communicates with both hemispheres. But at the same time, the experiments seem to prove that the sight of the opposite eye is never quite recovered, if the whole or *any* considerable part of one hemisphere is destroyed. The animal is able after a time with this one eye to guide its movements well enough, and with the help of its other senses it manages to hold its own among its fellows, but the character-

istic emotional effects accompanying vision, *e.g.*, the fury dogs show at sight of strange objects, or fear on being held out of a window at a distance from the ground, remain quite absent. Goltz supposes that the sense of colour becomes faint and confused, also that the judgment of distance, &c., is affected; the animal's experience becoming something like ours in a mist. To note the effect of hemispherical destruction upon one eye, Goltz wholly removed the other eye, and his experiments strike one as well varied and carefully made. He does not seem, however, to have varied the experiment in one way that would have been useful—leaving both eyes intact but affecting each equally through the corresponding (opposite) hemisphere.

(3) Movements, as such, are seriously affected, but it is necessary here also to distinguish between mere passing effects and such as remain. The initial muscular helplessness on the side affected by the hemispherical lesion is after a short time so far made good that nothing unusual might be remarked, but it is easy to see when the animal is on a slippery footing that there is real weakness on one side. It is also found that the animal never uses the front paw on this side for any of the many uses to which it would naturally be put. So in dogs that are trained to present either paw at command, the power of presenting one is lost, and though this may after small destruction be slowly regained, it is lost altogether if this destruction be carried far: one and the same paw is then always presented, whatever the demand. Similar weakness is shown in all the muscles of the same side (except the tongue); nor, if the destruction is considerable in extent, does it matter whereabout in the hemisphere it is. Some of the phenomena seem due to the general loss of sensibility noted under (1), but the inability, in spite of evident effort, to present the paw asked for, points to a real break between the organ of the will and the nerves that execute special volition. This must be so, although the muscles of the limbs, &c., are found to work effectively enough in the regular mechanical functions of walking, running, &c. As regards the one whole side of the body, it seems that there is a weakening of all the efferent processes under the control of the organ of conscious volition, because this organ, in as far as it is still present, appears to be connected with that side by less convenient channels than it is with the other side.

Goltz is thereby led to reject the theories of all his predecessors, and he believes that they in truth dispose of one another. Hitzig (and Ferrier, to whom he just refers) he especially charges with neglecting the difference between transitory and permanent effects: the permanent effects, as far as they are established, are of a kind not to be reconciled with the assumption of definite localised motor centres, however the limits of these be construed. Goltz's own view is that the restoration of function, after greater or less destruction of the hemisphere, is due to the cerebellum (which normally contributes to the action of the hemisphere) recovering from the stoppage temporarily caused by the operation and resuming its previous action. Thus is explained the fact that it is the mechanical movements of walking,

&c., which are chiefly recovered, these being the ones to which the cerebellum and related parts mostly contribute. But how as to the temporary stoppage of function? Here Goltz adduces a great number of facts and considerations to show that in all cases where higher centres are violently excited there is an inhibitory effect upon lower centres; but, if the higher centres be cut off from the lower ones, the inhibitory effect arising from the wound gradually passes away and the lower centres recover their normal function. It is such an inhibitory influence then that the cerebellum, &c., suffer from the cerebral lesion. Not till it passes away and these have begun again to function normally, can it be seen what is the actual loss from the hemispherical destruction. That this is very real appears from the experiments detailed above; and that it is ever compensated there is no reason to suppose. A new growth of brain-substance to supply the gap made does not take place in the higher animals; though what remains of the original cortex tends to spread out into the space left free.

Goltz promises to deal with the psychical effects of his experiments in another paper, but his present communication has no small psychological import in as far as it indicates the wide-spread character—practically the omnipresence over the hemispheres—of the nervous connections involved in touch, sight, and movements. As far as it goes, the research bears decidedly against the views of Hitzig and Ferrier, especially as now developed by the latter. And it is not less but rather more decisive that the *Ausfallserscheinungen* (as Goltz calls them) or permanent deficiencies of function are demonstrated—always supposing them really established—in dogs whose lower motor centres (as Dr. Ferrier argues, *Functions of the Brain*, p. 73) are much more independent of the hemispheres than in monkeys.

EDITOR.

The Laws of Dream-Fancy.—In the November number of the *Cornhill Magazine* the present writer has endeavoured to carry the physiological explanation of dream-phenomena as far as can be done in the present state of the science. Three problems arise in connection with the subject: (1) Whence come the vividness and apparent reality of dream-images? (2) What are the sources of stimulation from which the various contents of our dreams are derived? (3) What gives to our dream-combinations their peculiar form and order? (1) The *reality* of dream-images is accounted for through the absence of what M. Taine calls the 'corrective' of a present sensation. It is possible also that absolutely as well as relatively our dream-images are more lively than our waking imaginative representations. (2) The *sources* of dream-excitation have been investigated on the psychological side by Hartley, on the physiological by Maury, Wundt, and others. They may be divided into peripheral and central. The former include (*a*) objective sensations, properly so called (as illustrated by M. Maury's interesting experiments), (*b*) subjective sensations, together with (*c*) the feelings arising from the position and

condition of the muscles, and not least (*d*) those connected with the several organic processes. The central stimulations, again, may be divided into (*a*) the direct, which appear to arise immediately from some unknown influence excited by the contents of the blood-vessels on particular tracts of the brain, and (*b*) the indirect, or those effected through acquired cerebral connections or the bonds of mental association. (3) As to the *form* of dream-combinations, the least perfect and passive dreams owe their peculiar incongruity to the number and variety of the wholly disconnected sources of stimulation which simultaneously supply images to consciousness. More particularly the various degrees of irritability of the cerebral elements at the time serve very much to complicate and confuse the grouping of images and to explain why the ordinary paths of association traversed in waking hours are so seldom followed. In the case of the more elaborate and closely connected dreams, much of the verisimilitude arises from the action of organic dispositions or general tendencies of association which serve as so many rough forms of dream-thought. Such a general disposition would account for our attributing some kind of words and actions to the image of a man or woman which presents itself, though what the particular words are to be depends on the co-operation of the several existing causes already spoken of. Hence the mixture of a general reasonableness with a particular incongruity which marks so many of these dreams. Next to these influences, one must reckon the play of attention under the sway either of an impulse for rational unity, or of a dominant emotional tone somehow excited at the time, which tends to harmonise all inflowing images with itself. In the act of fixing attention on the internal imagery of our dreams we unconsciously modify it, selecting, adapting and fusing according to the pre-existent ideas or emotional tone. The emotional key which dominates so many of our dreams is fed by the effect of previous images and still more largely by the pleasurable and painful organic sensations of the time. The essay concludes with an attempt to explain, by a number of influences already touched on, the power of gradual exaggeration into which dreaming is apt to fall, also what the Germans (as Scherner and Volkelt) call the symbolic function of dreams, and lastly our usual non-recognition of the bodily sources of dream-impressions.

JAMES SULLY.

XI.—NOTES AND DISCUSSIONS.

On some alleged distinctions between Thought and Feeling.—In noticing the *Psychology* of Brentano in MIND, No. I., I dissented from his explanation of the difficulty of distinguishing in a satisfactory manner the ultimate generic facts of consciousness, and affirmed that the main cause of the failure of the distinctions which had been attempted to be drawn was not the impossibility of inner perception becoming inner observation, but the immense variety of forms in which the ultimate facts of consciousness manifest themselves. I referred in

illustration to the distinctions between Thought and Feeling laid down in Fleming's *Manual of Moral Philosophy*, Pt. I., Introd., ch. iii. I believe that Fleming has there brought together all the distinctions that are currently recognised as discriminating the intellect from the sensitivity, and that by indicating how superficial and untenable most, if not all, of them are, I shall show the necessity for a new and more thorough investigation of the relationship of these two great provinces of mind.

The first of the distinctions laid down by Fleming is, that "In cognitions, or the phenomena of intellect, there is a dualism which is not implied in feelings, or the phenomena of sensitivity. To know there must be an object of knowledge, and the *object known* is different from the object knowing. To feel is merely to experience a modification of self. A state of feeling is subjective and one. An act of knowing involves the antithesis of subject and object." Now, is this distinction tenable? It seems to me that it is not. Feeling no less than thinking is a fact of consciousness, a form of consciousness, and all consciousness involves a dualism. That is its primary condition. An absolute unity in consciousness is inconceivable. The terms of the relation may even in cognition be self and a modification of self; the object is not necessarily apart from or out of the Ego. But wherever there is consciousness there is relation, and wherever there is relation there is dualism, and to say that feeling involves no distinction of self and its modification is simply to deny that feeling is a form of consciousness. We can no more feel without feeling that we feel than we can know without knowing that we know. Feeling is not a something independent of that dualism which is the necessary condition of consciousness but a something superadded to it. It is not a something absolutely one. Were it so, it could not be a mental fact at all. If in any sense a unity, it is a unity which involves a dualism, which depends on a dualism for its very existence.

The second distinction laid down is, that "Cognitions are characterised as true or false; feelings as pleasurable or painful, agreeable or disagreeable". This is supported by a quotation from Reid which states merely that feelings cannot be expressed in propositions—do not affirm or deny, are not true or false, like judgments,—have not the qualities which distinguish judgments from all other acts of mind. But that certainly says nothing for Fleming's distinction. Judgments are one thing; cognitions are another. Judgments are only a kind of cognitions, and it is not correct to predicate of the genus, cognition, what is true merely of the species, judgment. Reid says the qualities of true or false distinguish judgments from all other acts of mind. If so, they distinguish them from a great many kinds of cognitions, from all varieties of simple apprehensions, and thus distinguishing judgments from other cognitions, it is manifestly impossible that they can distinguish these latter cognitions from feelings. It is, further, certainly not to be assumed that feelings are pleasant or painful, agreeable or disagreeable, seeing that many psychologists have held that, owing either to feebleness of impression or of the contact and counteraction

of pleasure and pain in an equal degree, they may be indifferent, and Prof. Bain has argued that emotion may exist even as excitement not pleasurable or painful.

The third distinction laid down is, that "Cognitions are permanent, invariable, and uniform, while feelings are fugitive and variable, and differ, not only in different individuals, but in the same individuals at different times". This is likewise quite untenable as a general distinction. There is a little truth in it but there is more error. Knowledge in the form of science may be, at least comparatively, "permanent, invariable, and uniform," but the cognitions of the individual are certainly not always so. Opinions like tastes are various. What seems true to one does not seem true to another, just as what pleases one does not please another. What seems true now may not seem true to the same person hereafter; and what seems false to him now may come hereafter to appear to him true. Perhaps cognitions are as a general rule more permanent than feelings. But that is all that can be said. Some feelings are more permanent than some cognitions. Nothing about us is more permanent than some of our feelings, some of our cognitions. This distinction, like the previous one, ignores the essential fact that feeling is not to be discriminated from thought by contrasting it only with some special form of thought, and especially not by contrasting it with the higher forms of thought. It is a distinction which may hold between feeling and scientific demonstration but it will hold equally between many kinds of thought and such demonstration. Fancy and imagination are exercises of intellect but they are as little permanent, invariable, and uniform, they are as essentially variable as any feelings can possibly be. Fleming has even gone further astray. "Knowledge may admit of increase, but not of variation. It may alter in amount, but not in nature. What is true now, remains a truth for ever. What is true to one, is true to all. It is the fixed and certain nature of knowledge which is the ground of all progress and improvement. But Feeling is unstable." In writing thus he obviously forgot that he had nothing to do in the investigation on which he had entered either with knowledge in itself or with truth in itself, but merely with the act or exercise of intellect called knowing or cognition. The question is, How does the mental state termed feeling differ from the mental state termed knowing, how does emotive experience differ from intellectual action? It is not how does feeling differ from truth, which is a something independent of the mind, nor how does emotive experience differ from knowledge, which is the reward of intellectual exertion, and a reward even which it may fail to attain. Apart, however, from this, the distinction, as I have indicated, breaks down. It is no distinction between thought as such and feeling as such.

The next distinction attempted to be drawn is, that "The operations of the intellect are confirmed, while the exercise of the sensitivity is weakened, by familiarity and reflection". It is a distinction still less tenable, if possible, than the preceding ones. Pass in review the different principles of action, the appetites, emotions, desires, affections,

and passions, and it will be found that with few exceptions they are intensified and confirmed by indulgence, and that the exceptions can be accounted for. Mere passive impressions weaken and deaden the intellect as well as the sensitivity, and real indulgence intensifies the sensitivity no less than it strengthens the intellect. Fleming admits that "the feelings connected with the affections of country, and kindred, and friendship," are confirmed by being long cherished, but accounts for it on the ground that "the elements which go to constitute these affections partake more of the intellect than of the sensitivity". The admission is, however, inadequate and the explanation incorrect. The fact admitted is just as true of the grossest and most brutal passions as of the honourable and generous affections mentioned. Does the drunkard's passion for strong drink not grow in intensity and strength with indulgence? And is his infatuated desire one the elements of which partake more of the intellect than of the sensitivity? The mere feeling accompanying its gratification may decrease, but the desire for gratification increases, and desire is a form of the sensitivity, just as much as the feeling. This distinction takes no note of that. The two previous ones erred by taking a species of of cognition, the highest kind of cognition, for the entire genus, cognition; this one errs by taking a species of feeling, the lowest stage of feeling, or feeling proper, for the entire genus, feeling.

The fifth alleged distinction is, that "Cognitions are more firmly retained, and more easily and fully recalled and revived, than feelings". "An object of sense perceived," says Fleming in illustration, "a relation discerned, a conclusion come to, can be reproduced and represented to the mind, and made the means of increasing our knowledge. Feelings often pass away without leaving any trace behind them. When they are revived, it is very much in virtue of their being connected with cognitions. And they are revived in a form much less vivid than when first experienced." Now, it must again be remarked, that while we have to contrast feelings with cognitions we have not to contrast them with objects of sense perceived, relations discerned, or even conclusions come to, but only with the perceiving, discerning, concluding. But, apart from the inaccuracy which there is in what Fleming says from overlooking this, it is obvious that, even if all that he says were true, it would only be the statement of a difference not of nature but of degree. That is not, however, what it is presented as being, and it is not what is required. Thoughts differ from thoughts, feelings from feelings, in the same way in which thoughts and feelings are here said to differ. Some thoughts are much more firmly retained and more easily and fully recalled and reviewed than other thoughts, some feelings than other feelings. What thus distinguishes thoughts from thoughts, feelings from feelings, cannot distinguish thoughts from feelings. It is only, in fact, a distinction of nature that can have any relevancy or worth. The question is not one of more or less but of kind. Even as expressive of a difference of degree, what is said, if it hold, holds only in a very loose and general way. If feelings often pass

away without leaving any trace behind them, so do thoughts. It is our feelings, it may be even contended, which leave most trace behind them. And certainly there are feelings, I cannot but think, which exert a far more potent influence in determining what thoughts and emotions shall be experienced by us, a far more potent influence on the laws of association, than, perhaps, any cognitions. The influence of our general dispositions and tempers, and even of our varying moods of mind, in originating and directing, in shaping and colouring our trains of thought, is so vast and manifest that all observers of human nature have had their attention drawn to it. Hence, if it be true that "when feelings are revived, it is very much in virtue of their being connected with cognitions," it is equally true that when cognitions are revived, it is very much in virtue of their being connected with feelings. And there is nothing exceptional in feelings being "revived in a form much less vivid than when first experienced". The memory of a thing is never so vivid as the perception of it. Perception and memory, however, are both cognitive acts.

The sixth distinction laid down is, that "The intellect can entertain opposite ideas at the same time; but the sensibility cannot at the same time experience contrary feelings. The knowledge of contraries is one. He who knows what motion is, knows also what rest is; and the contrariety between them does not prevent us from thinking of them at the same time, but has the effect of bringing them into our thoughts together. But we cannot, at the same time, feel joy and grief, love and hatred; one feeling displaces another. Feelings succeed one another rather than co-exist." This likewise, even if true, tells us little or nothing as to the distinction between thought and feeling. To say that two contrary thoughts may come together but that two contrary feelings cannot, gives us almost no information as to wherein the contrariety of any one thought to any one feeling consists. But there is a more serious objection. It is only in abstract thought that contraries are known as one. In any single direct cognition, in perception, for instance, or internal intuition, contraries unite no more than they do in feelings. It is as impossible to have a perception of contraries at the same time as to have a sensation of them. There are, then, since perception belongs to the intellect and sensation to the sensitivity, a cognition and a feeling which this distinction is utterly incapable of discriminating. It does not enable us to distinguish every form of feeling from every form of cognition. There is another objection. If simple feelings are compared to simple cognitions, contraries will, as has just been stated, be found united in neither; but if complex feelings are compared with complex thoughts they may be found in both. It is contrary to the commonest experience to say that "the sensitivity cannot at the same time experience contrary feelings". There can be pleasure commingled with pain. There can be joy in the midst of sorrow. It is what poets without number since Homer, and philosophers since Plato have described. Children are both frightened and fascinated when listening to a ghost-story; the more 'tear-compelling' a tragedy or novel

to solve the problem of individuality in general; and in particular that of the origin of the Self in time, and the beginning of volition. But so far as I have said anything, I will endeavour to show that it is not incoherent, as soon as objections against it are distinctly formulated. I can not do so before. However, I may say that I have no quarrel with Determinism if only that view will leave off regarding the Self as a collection, and volitions as 'resultants' or compositions of forces, and will either reform or cease to apply its category of cause and effect. The problem, as Mr. Sidgwick states it, on p. 46 of his *Methods of Ethics*, I consider to involve a false alternative.

(2) The fact that when I speak of self-realisation "we naturally think of the realisation or development into act of each one of the potentialities constituting the definite formed character of each individual" is not surprising, until we have learnt that there are other views than those which appear in the *Methods of Ethics* (p. 72 foll.). And this we very soon do if we proceed. I have written at some length on the good and bad selves (Essay VII.); and on p. 146, I have repudiated distinctly Mr. Sidgwick's understanding of the term. I thought that I had left no doubt that characters might be partly bad, and that this was *not* what I meant by self-realisation, as = end.

(3) "We may at least say that a term which equally denotes the fulfilment of any of my desires by some one else and my own accomplishment of my duty, will hardly avail us much in a definition of the Highest Good." Perhaps. But I emphatically repudiate the doctrine that the mere bringing about by some one else of anything desired by me is my self-realisation. If the reviewer wishes the reader and myself to believe that I put this forward, he owes us a reference. If it be meant as a *deduction* from my premisses, he owes us an argument. He has given us neither; and as I think, nothing but a sheer misunderstanding.

(4) Mr. Sidgwick must be aware that I have endeavoured to define self-realisation, as = end. He proceeds to remark, "the question then is whether we gain anything by calling the object of our search 'the true whole which is to realise the true self'". I think we do: but then I have not left the matter here as my reviewer seems to indicate. That point of view is reached on p. 67, and the whole remainder of the discussion down to p. 74 is quietly ignored by him. I call particular attention to this.

The passage on Hedonism which follows I will take hereafter.

(5) I do not know whether in what is said about Kant there is an objection to my views, nor, if so, what that is; but when the reviewer says of me, "he accepts a merely relative universality as a sufficient criterion of goodness," I must remark that this is what I do *not* say. I say relative *and* absolute, (p. 174); and this appears even from my reviewer's next page.

(6) "Mr. Bradley, I think, has not clearly distinguished this view from his own; and the effectiveness of his argument against Individualism depends chiefly on the non-distinction." The view is "the old doctrine . . . that the individual man is essentially a social

being". But (*a*) if my view is partly the same as another, what is that against it? (*b*) If Mr. Sidgwick will point out confusion, I will admit it or answer it. I cannot do either until he does. (*c*) At any rate, "that the individual man is essentially a social being" *is* my view, and is *not* my reviewer's. If it be "a vague and barren ethical commonplace," yet in his book he must be taken to deny it, for he finds the end, and, I suppose, the essence of man by examining a supposed "single sentient conscious being" (p. 374).

(7) "He allows . . . even that 'open and direct outrage on the standing moral institutions which make society and human life what it is,' may be 'justified on the plea of overpowering moral necessity'." Here I must earnestly beg the reader to consult the context in my book (pp. 204-5). I cannot ask for space to quote it. The question I was discussing was the extent to which *in theory* we must hold that collisions may proceed (*cf.* p. 142). On p. 143 I distinctly denied that 'moral theory' is 'meant to influence practice' (*cf.* p. 205 foot-note). And I do think this ought not to have been ignored.

(8) My reviewer continues—"But here he plainly comes into conflict with 'unsophisticated common sense': and surely, if that authority be thus found *falsus in uno*, it must be at least *fallibilis in omnibus:* and thus we have still to seek for some criterion of the validity of its dictates". First, I must ask for a reference for 'unsophisticated common sense'. It is given as a quotation from me, but I do not recognise it. Next, I have maintained that I do *not* really come into collision with common morality, but, when understood, am at one with it (p. 204, *cf.* 142-3). And my reasoned exposition, ignored by the reviewer, may stand I hope against his "plainly". Thirdly, he argues, What is *falsus in uno* is *fallibilis in omnibus*. The falseness in this one thing I deny. Next, if I admitted it, I should like to see the steps by which the conclusion follows. Next, I have never hinted that the moral consciousness is *not* fallible in particulars. Mr. Sidgwick really should give references for what he attributes to me. Next, I deny that it is fallible in all points. Lastly, even if it were false throughout, I say we have *not* "to seek for some criterion of the validity of its dictates"; for none is possible.

This is all I think it necessary to say in answer to that which my reviewer has urged against the doctrine I have put forward. The rest which I have not noticed, I must not be taken to admit. And now, seeing that a large part of my book was directed against Hedonism in general, and one or two pages even against Mr. Sidgwick in particular, I naturally hoped for some discussion of the matter. This is all I can find. "The notion of Maximum Pleasure is certainly sufficient for systematising conduct, as it gives us a universally applicable standard for selecting and regulating our activities. But it does not give us an end which can ever be realised as a whole, in Mr. Bradley's sense, that is, all at once: for obviously there is and can be no moment at which a 'greatest possible sum of pleasures' can be enjoyed."

First, as was said above, the reviewer ignores my interpretation of self-realisation. Next, he suggests that my argument against Hedonism is that pleasures cannot be enjoyed all at once. True, that is *an* argument; but is it possible that Mr. Sidgwick can really believe that in other respects Maximum Pleasure answers to my conception of the end? This is so wholly at variance with the doctrine I hold that I confess I was not prepared for it. Thirdly, that the notion of Maximum Pleasure can systematise conduct and give a standard, is a proposition I have formally contested. Mr. Sidgwick not only gives me an assertion for an answer, but by the way he introduces the assertion suggests to the reader that I believe it myself.

I can find no other defence of his opinions but the (unsupported) charge against me that I use rhetoric for argument, and that my apprehension of the views which I assail "is always rather superficial and sometimes even unintelligent". Those views I think should be securely founded, if they are to bear being defended in this way.

F. H. Bradley.

[Mr. Bradley seems to be under a strange impression that, while professing to write a critical notice of his views on ethics, I have been or ought to have been—defending my own. I entertain quite a different notion of a reviewer's "station and duties". In criticising his book (or any other) I put out of sight my own doctrines, in so far as I am conscious of them as peculiar to myself: and pass my judgments from a point of view which I expect my readers generally to share with me. Hence the references in his reply to my opinions would be quite irrelevant, even if he understood those opinions somewhat better than he does. I passed lightly over his attack on Hedonism in Essay III. for the simple reason—which I gave—that I thought it less interesting and important than other parts of his work. Much of it, as he must be perfectly aware, either has no bearing on Hedonism as I conceive it, or emphasises defects which I have myself pointed out: the rest consists chiefly of familiar anti-hedonistic commonplaces: the freshest argument I could find was one with which I had made acquaintance some years ago in Mr. Green's Introduction to Hume. This, as stated by Mr. Green, I have taken occasion to answer in the course of an article in the present number of this journal. The attack on my book appended to Essay III., though not uninstructive to myself, is far too full of misunderstandings to be profitable for discussion. It is criticism of the kind that invites explanation rather than defence: such explanation I proposed to give in its proper place—which was certainly not my notice of Mr. Bradley.

On the special points which he raises, the very briefest reply will suffice.

(1) (2) (3) He scarcely attempts to answer my charge of 'want of clear coherence' in his exposition of 'Self'. He does not deny that the 'self' presented in Essay I. is dropped without explanation when we pass to Essay II., and other accounts are given of the same notion. Among them is the statement that "all we can desire is self"; from which I drew the immediate inference that the fulfilment of any desire is a kind of self-realisation: if he did not intend this inference, pp. 61, 62 are confusing and somewhat irrelevant.

(4) The discussion on 'finite' and 'infinite' (pp 68-73) is a part of the metaphysics of which, in general terms, I notified my omission. I

thought, and think still, that it was comparatively unimportant to the ethical discussion. A critical notice does not profess to be a table of contents.

(5) He misunderstands my 'relative universality'. I say that the social organism, of which the individual in Essay V. is explained to be essentially a part, is a *relative* and not an *absolute* whole. That is, it is not the universe: and we have no reason to identify its will—granting this to be real and cognisable—with the universal or Divine Will to which our wills should conform.

(6) I did not absurdly complain that he combined in his *positive* doctrine the common view of society as a natural organism with his peculiar view of this organism as possessing a reasonable will: I criticised him for not distinguishing them in his polemic against Individualism. The result of the non-distinction is that much of this polemical argument—as far as I can trace it through its folds of rhetoric—is directed against an individualism which will find no defenders: the individualism, namely, to which the 'Social Compact,' belongs, and to which Utilitarianism long since gave the *coup de grâce*.

(7) (8) I still maintain that the non-theoretical unreflective person who is exalted in Essay V. as furnishing the moral standard will be considerably startled to find his encomiast justifying, with whatever qualifications, "open and direct outrage on the standing moral institutions which make society and human life what it is". He will regard Mr. Bradley as almost a "thinker," and at least "on the threshold of immorality". And I doubt whether he will be quite consoled by learning that this justification is not "meant to influence practice": though I admit that the consolation is well adapted to the average philosophical capacity of the non-theoretical person.

But I need not press this point: because Mr. Bradley, as I understand, admits the possibility of a conflict between common sense and his private moral consciousness; and is prepared, in case of such conflict, to rely entirely on his own particular moral intuition, allowing no appeal to any express principle or external standard. If this be so, his apparent reference to an external standard in Essay V. is found (as I said) to be devoid of precise meaning or scientific value.

To sum up, then, I have nothing to retract or qualify on any of the points raised by Mr Bradley—except a pair of inverted commas which were accidentally attached to a phrase of my own. But I should prefer to part from him in a friendly manner; and therefore I am glad to find something to concede to him in the phrase in which I characterised his style as over-rhetorical. I still dislike the quality of his rhetoric, whether it be satirical, pathetic or declamatory: and I think it is sometimes introduced, at important points, so as to interfere with the closeness of his reasoning. But I find that the sentence in which I combined these two judgments was too strongly worded: and am glad to substitute for it the milder phrases just given.

HENRY SIDGWICK.]

Mr. Hodgson on 'Cogito ergo sum'.—Assuming that Descartes' first principle really means what Mr. Hodgson (MIND IV.) says it does—that my being and my consciousness are one, that my being *is* my consciousness and my consciousness my being—what are we to make of a sentence like the following?—"If the true sense of '*Cogito ergo sum*' is what I contend, *My existence means my consciousness*, we can go on to generalise this in application to other things: their existence

means the consciousness which I or others have of them; *esse* means *percipi.*" Is there not something very far wrong here? When I say, *I* exist, I mean, *I am conscious;* but Mr. Hodgson declares that this statement generalised runs so—The existence of other things means, not *their* consciousness, but *my consciousness of them.* Now, it appears to me that this is a generalisation in which the essential element of the particular has been left out of the general, that there is, in fact, absolutely nothing in common between the particular proposition started with and the generalised result. If the fundamental truth of philosophy were, My existence arises *in* my consciousness, existence and consciousness might be regarded as possibly different; in any case, the *nature* of existence would be an open question. But if the ultimate fact is, My existence arises *as* my consciousness, then existence and consciousness are indissolubly one, and conceivable only as different names for the same thing. When, therefore, I generalise the conception of *my* existence, and apply it to that of other things, the generalisation ought to be—The existence of other things means *their* consciousness. This seems so obviously the only fair logical extension of Descartes' deliverance as interpreted by Mr. Hodgson, that I am half disposed to believe that I am somehow misunderstanding the very plain-looking words of the sentence just quoted. If all that I know of existence at first hand—that is, in my own case—is, that it is always a mode of consciousness, then, when I extend this unvarying experience to other existences, real or conceived, is it lawful for me to strike out of the idea of existence as thus extended its inseparable other-half, consciousness? Surely this would be no extension of my own individual experience at all—no generalisation in any proper sense of the word. In my own case, existence and consciousness stand or fall together; but the existence of Peter and James and John, and stocks and stones, is secure enough, it appears, *if somebody else is conscious of them.* The logic here looks alarming, but Mr. Hodgson is responsible for it, if I have not grossly misunderstood his language.

The existence of other things being supposed, it seems clear that, if we are entitled to extend to them that conception which is given in every one of our own conscious acts, we *must* attribute to all conceived existences *some* form of consciousness—a generalised form, of course, but still a consciousness. Otherwise, there will have been no true logical extension of Descartes' primary conception. If *esse* means *percipere* in the particular, it cannot be transformed into *percipi* in the general. It is absurd to represent the passive voice as a generalised form of the active.

Mr. Hodgson remarks that Descartes' deliverance "does not tell us what existence *in general* is; that would disqualify it at once for a *beginning* of philosophy; it speaks only of a particular case, the case of ourself". But existence in general must be the same *in kind* as existence in particular, else generalisation would signify metamorphosis; and if consciousness is the very essence of existence in each particular case, it must be conceived as present in all cases. And there is the more need for extreme watchfulness as to the use made of this root-

proposition, because many things just now seem pointing to the conclusion, that on Descartes' '*Cogito ergo sum*,' rightly understood, the philosophy of the future can find its only firm footing; that his first principle, boldly carried to its farthest logical issues, can be shown to possess that necessity and universality without which no system of thought can be other than an unenduring cloud-world of more or less consistency. If consciousness were clearly seen to be co-extensive with existence (actual and conceivable), that hitherto fruitless and painful search for the *Ding-an-sich* would cease—for the "thing in itself" would then have been found; the Kantian dualism, with all its perplexing inconsistencies, would fall to pieces; and the incorrigible Hegelian even would acknowledge that all the unquestionable truth in his master's system had been embraced in the one dictum, Existence is Consciousness. Whether or not Descartes himself saw to the end of the road along which his principle points, this is not the place to inquire; the intention here is simply to note the fact that Mr. Hodgson, at all events, would appear to have missed the path altogether.

As against Mr. Arnold's reading of the famous '*Cogito ergo sum*,' the passage quoted by Mr. Hodgson seems decisive, though it is more than questionable whether it will appear so to the author of *God and the Bible*. Mr. Arnold's own contributions to philosophy having hitherto, most of them, taken the form of contemptuous remarks upon philosophers, expressed in the choicest of English, and with all the graces which culture can bestow, he is not likely to be greatly moved by this note or that of Mr. Hodgson. But all those who make philosophy a serious study will be disposed to admit that the significance of the Cartesian First Principle is, even in these advanced times, worthy of the strongest possible emphasis.

ALEXANDER MAIN.

[Mr. Main's note is opportuneness itself. I was quite aware that many might require to have the grounds of my generalisation of the '*cogito*' fully drawn out before accepting it, but I was withheld from saying more by the fear of travelling out of the record. Now, however, Mr. Main comes to my aid, and that by so clear and forcible a statement of the opposite alternative as to save me from all need of restating it, as I must have done if I had explained the whole case myself.

Assuming, then, that *my existence means my consciousness* expresses the true sense of the '*cogito*,' I argue that Mr. Main's generalisation of that statement, *viz.*, that the existence of other things means their consciousness, and that *esse* means *percipere*, is inconsistent with its true sense. In *my existence means my consciousness*, *my consciousness* may *primâ facie* be taken to signify one of three things, either (1) myself being conscious, or having my states of consciousness; or (2) my states of consciousness as coming from existing things; or (3) my states of consciousness alone. (The word *my*, in all three cases, is merely a word of *designation*, to make it clear to the reader that I am not passing beyond the limits of the subject, my consciousness). Now the two first of these meanings are excluded from being the true meaning, because each of them assumes existence as known, the existence of myself in the first case, of things in the second, and thus nullifies the statement *my existence means my consciousness*, and disqualifies it as an explanation of

my existence. It is no explanation of my existence to say that it means *myself having consciousness*, for that assumes that I already know myself as having something, that is, as existing.

It is this meaning of *my consciousness* which is involved in Mr. Main's generalisation. It would make Descartes' '*cogito*' say, *I exist because I exist thinking;* it would simply unsay the '*cogito*'. The only admissible sense of the '*cogito*' is the one in which *my consciousness* means *my states of consciousness alone*, states which become objects to me in the '*cogito*' moment, which is the moment of self-consciousness or reflection. They and they alone, in the first instance, are the explanation of *my existence;* my *esse* is not my *percipere* but my *percipi*.

Adopting this, the sole admissible, meaning of *my existence means my consciousness*, I then generalise it by dropping the particular circumstance that it is *mine*. The *esse* of anything means that it is an object in some consciousness, its own or other. As Mr. Main truly remarks, "existence in general must be the same *in kind* as existence in particular".

I cordially concur also in the necessity for extreme watchfulness in the use made of this "root-proposition"; and also in the belief that it offers the only firm footing for philosophy. But I cannot agree that Mr. Main's generalisation of it necessarily precludes a *Ding-an-sich*. On the contrary, the interpretation on which it rests apparently introduces a *Ding-an-sich* as Subject; for by that interpretation a percipient Subject is assumed without the explanation of a predicate. But by my interpretation a predicate is given to the supposed Subject.

Some other consequences too of Mr. Main's interpretation, if the '*cogito*' is also made the basis of philosophy, are familiar to us. It is the conception which is at the root not of Fichte, Schelling and Hegel only, but of all the forms which are or may be included in the now fashionable philosophy of Monism, the latest importation from chimeraland. The last outcome of philosophy would be evidently necessary from the very first step in it, on Mr. Main's interpretation of Descartes. If to be endowed with consciousness is a condition of existing, it follows at once that whatever exists is, or has been endowed with consciousness, —for instance, the Universe. Philosophy is not so royal a road as this syllogism would imply.

Another side of the question remains to be considered. No generalisation of the '*cogito*' can be true which contradicts or unsays the '*cogito*'. The true sense of the '*cogito*', when once established, is a test to which we must bring any proposed generalisation. The consequence in the '*cogito*,' its *ergo*, may *primâ facie* be taken as one of three different kinds, namely, as introducing and assigning either (1) the condition of existence of my existence; as, my existence results from my consciousness; or (2) the condition of my knowing *that* I exist; as, the fact that I exist is shown by my being conscious; or (3) the condition of my knowing *what* my existence is; as, my existence *means* my consciousness. There are three possible alternatives, because there are three ultimate sorts of conditions, *existendi*, *cognoscendi*, and *essendi*. The last of the three alternatives has been shown to be the true one. I argue, therefore, that any proposed generalisation of the '*cogito*' which either assigned a condition of existence for existence at large, or assigned a condition of knowing the fact of existence at large, would not be true as a generalisation of the '*cogito*'.

But Mr. Main, in his first sentence, puts my intrepretation of the '*cogito*' thus: "that my being and my consciousness are one, that my being *is* my consciousness and my consciousness my being". The word

is, when standing as copula, gives no indication which kind of condition is intended by the proposition. And therefore I was careful to interpret the *is* in the '*cogito*' by the word *means*, having shown the '*cogito*' to express only *what* existence was, and not how it arose nor how it was inferred. Mr. Main, in recurring to the unanalysed use of *is*, really unsays Descartes' proposition.

SHADWORTH H. HODGSON.]

XII.—NEW BOOKS.

History of English Thought in the Eighteenth Century. By LESLIE STEPHEN. 2 vols. London: Smith, Elder & Co. Pp. 466, 469.

This very important work will be reviewed at length in a future number. It is first of all, as the preface tells, a history of the Deistical movement; but for this it "seemed necessary to describe the general theological tendencies of the time, and, in order to set forth intelligibly the ideas which shaped those tendencies, it seemed desirable, again, to trace their origin in the philosophy of the time and to show their application in other departments of speculation". The author therefore begins with an account of the contemporary Philosophy, and seeks besides "to indicate the application of the principles accepted in philosophy and theology to moral and political questions, and their reflection on the imaginative literature of the time"; though in dealing with political theories he tries to keep as far as possible from the province of political or social history.

A Treatise on the Moral Ideals. By the late JOHN GROTE, B.D. Edited by Joseph Bickersteth Mayor, M.A. Cambridge: Deighton, Bell and Co. 1876. Pp. 519.

Professor Mayor, continuing his work as editor, here prints the constructive treatise on Ethics which the late John Grote turned to write on resigning his original intention of publishing a controversial answer to Mill's *Utilitarianism*. The controversial treatise, which had been partly printed when laid aside, after all saw the light first, being published six years ago by Prof. Mayor, in the exercise of his editorial discretion, under the title of *An Examination of the Utilitarian Philosophy*. The present work will be reviewed in the next number of MIND, and all reference to its contents may therefore be deferred. As in the case of the former work, the editor's duties have been very onerous. He now proceeds to prepare for the press the second part of the *Exploratio Philosophica*, of which Part I. appeared in 1865, the year before Professor Grote died.

A Philological Introduction to Greek and Latin, translated from the German of FERDINAND BAUR by C. Kegan Paul and E. D. Stone. London: King & Co. 1876. Pp. 153.

This little work, however technical, calls for notice in MIND by reason of the remarkably clear psychological conceptions underlying

the author's treatment of his special subject. The exposition falls into three parts, from the division of Philology or the science of Language (as the phonetic representation of Thought) into Glottology, dealing with Vowels and Consonants as the *matter* of language (1), and Grammar or the science of linguistic *form* in the two phases of (2) Root and Stem formation, and (3) Word formation or Inflexion. How the Root arises originally as the expression of a general idea and passes into the fully developed Word through the Stem, is very accurately conceived in point of psychology, and the philosophical student may follow even the technical details of the book for illustration of the principles which he will find (for his purposes) only too briefly expounded.

An Introduction to the Principles of Morals and Legislation. By Jeremy Bentham. Oxford: at the Clarendon Press. 1876. Pp. 336.

A timely and handy reprint, for the use of students, of this classical work (first published in 1789), according to the 'New Edition, corrected by the Author,' which appeared in 1823.

Behind the Veil. An outline of Bible Metaphysics compared with ancient and modern thought. By Thomas Griffith, A.M., Prebendary of St. Paul's. London: Longmans, Green and Co. 1876. Pp. 230.

The work is divided into four parts: I. Invisible Realities. II. The Realities in Nature. III. The Reality in Man. IV. The Supreme Reality. The present age demands *facts*. But we cannot rest there. Facts are phenomena in the human mind. But phenomena suggest the questions—Phenomenal of what? Phenomenal to what? Hence the faiths of mankind, the reaching beyond the known. Three Realities must in short, be believed, although not beheld—a Reality beneath nature, a Reality at the base of all mental phenomena, and a Reality underlying the universe or nature and mental phenomena. With regard to the first all philosophy testifies that things are not what they seem. Nature is summed up as matter and force, and as matter is only known to us as force, our system of the universe is an orderly arrangement of forces; for which we are entitled to read "Realities which put forth force," even as the energy exerted by ourselves wells up from an unfathomable depth below. For secondly, Man is not all that he seems. There is an unrevealed "inward" man or true self, the recognition of which is not only spontaneous with the common mind, but emerges through the contradictions of thinkers who would deny it. The Ego cannot be eliminated from our psychological statements, as at once a Recipient of impressions, a Percipient of thoughts, an Incipient of actions distinct from impressions, thoughts, and actions, Lastly, the hidden realities in nature and in man are obviously not unconditioned realities. They are interdependent and limited. They, too, must have a ground, an Unconditioned Reality of realities. The Being, Character, and Proce-

dure of God are the titles of the closing chapters, occupying a large portion of the volume. The work is enriched with references, indicating a catholic range of reading.

Studies in Ancient History, comprising a Reprint of '*Primitive Marriage*'. By John Ferguson M'Lennan, M.A., LL.D. London: B. Quaritch, 1876.

Mr. M'Lennan here reprints his well-known and much sought-for essay on Primitive Marriage (1865) in its original form, rather than keep it longer out of print for the revision he has hitherto been unable to make and could now not make in a short time. By appending, however, some essays on related subjects, his publication now assumes the wider scope indicated by the new title. The first of the appended essays, 'Kinship in Ancient Greece,' is itself a reprint, being the author's reply in 1866 to a challenge from Mr. Gladstone to show proof that kinship through mothers ever existed among the Greeks. The new essays are four in number: (1) 'The Classificatory System of Relationship,' against Mr. Morgan; (2) 'Bachofen's *Das Mutterrecht*'—a work that anticipated by four years the author's discovery of the fact of female kinship, though on very different grounds from his; (3) 'Communal Marriage'—against Sir J. Lubbock; (4) 'Divisions of the Ancient Irish Family'—against Sir H. Maine.

Winds of Doctrine: being an Examination of the modern theories of Automatism and Evolution. By Charles Elam, M.D. London: Smith, Elder & Co. 1876. Pp. 163.

Dr. Elam here reprints some essays on Automatism and Evolution which have recently appeared in a serial form. They were written for the most part in 1874 after the meeting of the British Association at Belfast, where Professors Tyndall and Huxley held forth in the way known to all men. The somewhat 'question-begging' title now prefixed to the essays indicates their drift: the doctrine of Automatism depends on the doctrine of Evolution, and the doctrine of Evolution is a sheer figment of the intellect, unsupported by the least direct evidence and in its outcome flatly contradicting all the deepest convictions, intellectual, moral and religious, of human nature. Like wind, it will pass.

Philosophische Consequenzen der Lamarck-Darwinschen Entwicklungstheorie. Ein Versuch von Dr. Georg von Giżycki. Leipzig u. Heidelberg: C. F. Winter. 1876. Pp. 97.

The author (who professes himself to be a disciple of Zeller in philosophy) takes exactly the opposite view of Evolution from Dr. Elam, and holds that the doctrine is not only verified as much as a doctrine of such comprehensive scope can be, but has full possession of the scientific field: "this or nothing". At the same time he is no less concerned than Dr. Elam for philosophic truth and for the

practical interests of morality and religion, and his little book is written to show that the theory of Evolution, when truly conceived, does not turn, as commonly supposed, *in majorem materialismi et atheismi gloriam.* The philosophical consequences of the theory are drawn out under the four heads of Psychology, Epistemology, Morals, Religion.

Die Philosophie Shaftesbury's, dargestellt von Dr. Georg von Giżycki. Leipzig u. Heidelberg: C. F. Winter. 1876. Pp. 200.

The author is of opinion that no extant ethical doctrine comes so near as Shaftesbury's to meeting the requirement now imposed upon philosophy, namely, that it conform to the spirit of positive scientific inquiry. He is therefore concerned to set it forth at the present time, more especially in opposition to the "contranatural" ethical system of Kant. Shaftesbury's works were translated into German in the course of the 18th century, and made no small impression on Herder and others; but, according to the author, their philosophical importance has never been sufficiently recognised, while by Schlosser their true character was grossly traduced. Neither in his own country has Shaftesbury received justice, his "idealistic" philosophy appearing like an exotic plant upon English soil. The author is wholly at one with Shaftesbury in conceiving ethics as having for its subject Virtue, not Duty, and he holds that an ethical doctrine should in particular include (1) a theory of the springs of human action, (2) a theory of virtue or moral excellence, and (3) a theory of moral progression and decline. Shaftesbury's doctrine lends itself naturally to exposition under these three heads, and the work ends with a chapter on his religious philosophy.

Kant's Analogien der Erfahrung. Von Ernst Laas. Berlin, Weidmannsche Buchhandlung, 1876. Pp. 363.

The Analogies of Experience seem to the author the central point of Kant's philosophy in its theoretical aspect, and a concentrated examination of them is believed by him to throw more light on the Critical Philosophy generally than can be had by following all the turns of thought and scholastic argumentation with which Kant perplexes his reader. The Analogies of Experience seek to prove that previously to experience we are able to affirm of all experience, that it must contain a permanent element as Substance, and be subject to the laws of Casuality and Reciprocity; and of these points there can be no sufficient exposition without drawing in all the most characteristic philosophical ideas of Kant. Among later thinkers, J. S. Mill and Schopenhauer chiefly engage the author's attention. With Mill he has much in common, but he justly blames him for contending with thinkers like Whewell or Hamilton, instead of meeting Kant at first hand.

Die Philosophie seit Kant. Von Dr. Friedrich Harms. Berlin, 1867. Pp. 603.

In the development of recent German philosophy the author notes

four distinct stages. The labours of Lessing, Herder, and Jacobi mark the beginnings of what is most characteristic of the philosophy of Germany, the setting-up a historical view of the world by the side of the physical. The second division contains the foundation of German philosophy by Kant. The positive result of Kant's endeavours was the establishment of an ethical theory of the world. The *Critic of Practical Reason* and the *Critic of Judgment* contain the ripest fruits of the Kantian thinking. Thirdly comes the great systematisation of German thought by Fichte, Schelling, and Hegel. Fichte sees the determining principle in Moral Purpose, Schelling in the Nature of Things, Hegel in Logical Thought. The systems of these thinkers were the necessary historical development of the doctrines of Kant. In the fourth place, we have the limitation of philosophy, determined by Schleiermacher, Herbart, and Schopenhauer. Of these, Schleiermacher stands as the representative of careful and sober criticism of the philosophy of the Absolute. In conclusion, the author devotes a few pages to the consideration of German philosophy in its most recent phases. The author sees at the present time two divergent tendencies as logical extremes of previous doctrines and systems. The one is represented by the journal founded by the younger Fichte, by Trendelenburg, and by Lotze. Here the stand-point is theistic, an Absolute being recognised as the last ground of Being and Becoming, of Action as well as of Thought. The other tendency may be styled Anthropologism, Man being taken as at once principle and end of Nature. This latter tendency is to be found in germ in Kant's *Critic of Pure Reason*, and more developed in Hegel's Natural Philosophy and in his conception of the essence of Religion. The claim of Anthropologism to be the whole of Philosophy is not however found previously to Feuerbach, the Materialists, and Schopenhauer. Whether this claim be justifiable or not is the philosophical question of the present.

Das Gesetz der Causalität in der Natur. Von Robert Schellwien. Berlin, 1876. Pp. 271.

The author compares the Kantian Metaphysic with the ground-principles of modern science. The former assumed a real unknowable world, furnishing the matter of our sense-consciousness; the latter posits a world of atoms whose movements are the anterior causes of all nervous changes. Assumptions in both cases are the ground of certain subjective phenomena. But Kant's Thing-in-itself implied a contradiction as being a known unknowable. Modern science is even more irrational, as *its* unknowable is clothed with the attributes of indivisibility, impenetrability, and activity. What way out of these contradictions? None but the identification of the Phenomenon with the Thing-in-itself. The real world is the known world, and Consciousness and Existence are one. This is not to degrade the world into a merely subjective presentation. Things are in themselves as they appear to us, but all does not appear. It is the task of the higher functions of consciousness to fill up what is wanting

in sensible perception, a method which is only scientifically justified on the principle of continuity, what is underivable from sense or not to be referred thereto being devoid of authority. The sensible objective world or Nature consists of distinct things having a multiplicity of relations presented in space. The way in which one thing is related to other things determines either its position of equilibrium, or its passage into another state of equilibrium. This relation of thing to thing is natural causality. The element of time disregarded, it is asserted that the fact of the difference of things is the first member in their causal connection and the presupposition of all their possible relations. The Law of Causality runs as follows: Natural Causality consists in such a relation between things that their difference is abolished, and they become related to each other as same or identical. The author illustrates and developes this thesis at considerable length. Coming finally to a special treatment of consciousness, he says, Nature and Mind are not different things, but different functions. The function of consciousness, like every natural function, is movement in which difference is expressed in the form of identity, but the form of identity of consciousness is higher than any natural one, because it is not relation of *thing to thing*, but *absolute* relation of the conscious essence *to itself*, and therefore has no longer difference or distinction as something foreign outside itself, but as its own—*in* itself.

Bernardi Silvestris De Mundi Universitate Libri Duo, sive Megacosmus et Microcosmus. Nach handschriftlicher Ueberlieferung zum ersten Male herausgegeben von C. S. Barach und J. Wrobel. Innsbruck, 1876. Pp. xxi. 71.

This is the first of a series of reproductions of philosophical works of the Middle Ages, hitherto unprinted or become rare, which will appear from time to time under the supervision of Prof. Barach of Innsbruck, entitled *Bibliotheca Philosophorum Mediæ Aetatis*, and designed to fill the gaps in our present knowledge of the literature of the time. "Bernard Silvester, generally known from the place where he taught as Bernard of Chartres, belongs to the most eminently cultured and influential personalities of the 12th century." The judgment of Prantl seems to the editor fully justified that the stand-point of Bernard was extreme Realism, a Realism which confronted the then rising Nominalism with the assertion of the singularity of individuals in the intelligible world. Bernard was at once poet and philosopher. *De Mundi Universitate* is written partly in prose, partly in verse. The philosophical ideas are conveyed under a mythical representation of the creation of the world and man.

Sebastiano Turbiglio: *Benedetto Spinoza e le Transformazione del suo Pensiero.* Roma, 1875.

This work, although of marked ability, is one of the strangest which has ever been written on the philosophy of Spinoza. It passes completely over what, from the title, we naturally look for, and describes to us instead a discovery which, if true, is certainly very remarkable.

It says nothing about the various phases through which the system of Spinoza passed in its author's mind during the fifteen or twenty years which elapsed between the first written sketch—the *Korte Verhandeling van God, de Mensch,* &c.—and the final form of the *Ethica,* but is exclusively occupied with tracing the transformations of thought in the *Ethica* itself. Its general finding is that there are in that work two Spinozas, one who proceeds by syllogisms, and another who proceeds by intuitions, an apparent or phenomenal Spinoza who has hitherto been mistaken for the real Spinoza, and a true or noumenal Spinoza, who was an unconscious Leibniz, and a powerful defender of the spirituality and immortality of the soul. How has a critic of the industry and intellectual vigour and sublety of Signor Turbiglio arrived, after five years of special study of his author, at this extraordinary result? By arbitrarily, although most ingeniously, rearranging the thoughts of Spinoza, and giving the words in which Spinoza expressed them a new meaning in their new connection. Although we cannot but think his work a failure on the whole, we cordially admit that it abounds in most suggestive combinations, and contains much excellent criticism.

Giuseppe Descours Di Tournoy. *Del Vero, del Bello, e del Bene.* Volume Primo. Milano, 1876.

This volume treats merely of the True, but comprehends an introduction, in which the genesis, method, and utility of philosophy are discussed, an Ideology or doctrine of the formation of notions, a Logic or doctrine of the combination of notions, a Metaphysics or doctrine of the objective conditions of truth, and an Appendix on the principles of Psychology. It is designed for general readers fully as much as for special students of philosophy. Prof. Di Tournoy has, perhaps, attempted to do more than was possible in the space he has allowed himself, especially as he has not always strictly economised it, but he is a clear writer and independent thinker. He belongs to no 'school'.

Giacinto Fontana: *Idea per una Filosofia della Storia.* Firenze, 1876.

The author of this work must not be confounded with Bartolomeo Fontana, whose *Filosofia della Storia nei pensatori italiani* is written from a very different point of view. He has been of late a diligent contributor to the *Filosofia delle scuole italiane,* and his book is throughout an application of the spirit and principles of the philosophy which is represented by that journal to the explanation of history. He starts with 'the idea,' the Absolute Being, and endeavours to show in what manner and measure the idea, as the highest object of thought and the ultimate end of action, has been apprehended by, and realised in, humanity. The course of its apprehension, the development of what he calls the contemplative principle, must be traced, he thinks, in the history of religion and science, while the course of its realisation, the development of the active principle, must be traced in the history of art, industry, and commerce. Such is the central idea of a

book which fortunately contains many other ideas of a less doubtful character, which displays a wide range of learning, which shows its author to be a man of considerable speculative capacity, and which is written in an interesting, although a somewhat too rhetorical, style. The distribution of contents made in it is :—(1) Introduction; (2) The ideal in history; (3) The two principles—the contemplative and active; (4) Development of the two principles; (5) Religions and Legislations; (6) Humanity; (7) Nations; (8) Civilisation; (9) Conformity of history to the speculative plan; (10) The progress of liberty; (11) Religious and civil liberty; (12) Conclusion.

XIII.—NEWS.

Mr. Philip Magnus, B. Sc., writes as follows :—

In the last number of MIND, attention is drawn to the fact, that according to the new Regulations issued by the Senate of the University of London for degrees in Science, Psychology and Logic are no longer compulsory subjects. To many who have been looking forward to the appearance of these Regulations, the intelligence that Logic as well as Psychology have been made optional subjects will be a matter of regret. To me, personally, it was a disappointment; for, at a meeting of the Committee of the Senate, which I had the honour to be asked to attend, I urged, as strongly as I could, and I had hoped with some success, the advisableness of retaining Logic among the indispensable requirements from all candidates for the B. Sc. degree.

Considering the importance of accurate thinking in all scientific pursuits, and the assistance that is obtained both in acquiring knowledge and in expressing it from an acquaintance with the principles of Logic, it is greatly to be regretted that this subject should not even have been included in the former or preliminary examination, which is, I imagine, intended to test the general scientific discipline of the student. The same importance can hardly be said to attach to Psychology, which till now formed one of the subjects of examination. But seeing that Logic, as developed by Herschell, Whewell, Mill, and Jevons, may now, perhaps, with more propriety than ever be styled *Scientia Scientiarum*, it appears somewhat anomalous that a degree in Science can be gained by men who may be wholly ignorant of the fundamental principles of this subject.

I do not wish to enter into detail with respect to the advantages which the student of Science gains from an elementary knowledge of Logic. But to the science-teacher the intellectual discipline which this study affords is of the greatest value. Even granting that facts may be accurately observed and registered, and inductions carefully drawn from them, by men who have never heard of an *experimentum crucis* or the Method of Concomitant Variations, I doubt very much whether any one who knows nothing of the laws of thought, or the principles of classification, can ever be made a good scientific teacher. Now, one of the chief uses of our B. Sc. degree is to give teachers a qualifying certificate. With this object it is principally sought after; and it commands no mean value. But I cannot help thinking that the London Science Degree will, for the future, be deprived of one of its chief merits; and that the certificate will be less likely than heretofore to indicate the fact that the holder of it has undergone some kind of training which may qualify him to become the teacher of others.

With the general character of the new Regulations I am not now concerned: but there can be little doubt that they are a great improvement on the former scheme. Looking over the list of subjects a knowledge of which will now be required from candidates for the Science Degree, it is, I admit, now difficult to say what subject should be displaced to make room for Logic; but I am inclined to think that it might have been better to have given three hours only to Experimental Physics, or to have omitted Mixed Mathematics from the preliminary examination, than to have excluded Logic altogether from the curriculum.

According to the new Regulations, candidates who choose Logic and Psychology as one of the three special subjects at the 2nd B. Sc. examination, will have *three* papers set to them instead of the two formerly set for B.A. and B.Sc. alike; and this is, so far, well. Presumably, however, if one may judge by dates, two of the three papers will still be common to the two Degrees; while it is expressly stated that the examination for Honours will be common. The arrangements altogether are open to much criticism, but the really serious matter is the question of principle reverted to by Mr. Magnus. By the surrender of Logic as a compulsory subject for the Science Degree, the credit of the University is gravely affected; and, if the authorities would but see this, no fear that a way of recovery could be found from the retrograde step.

We have received from the publisher (J. Baedeker, Iserlohn), Vol. I. of the third edition of Lange's *Geschichte des Materialismus*. It contains, besides a portrait of the lamented author, a short sketch of his life. He was only 47 when he died, on the 27th November, 1875. Till three weeks before his end he was busy with a new work, *Logische Studien*, which will shortly appear. He began this work on completing the revised second edition of his *Geschichte* in 1873. The History, now become so celebrated, appeared originally in 1865, when Lange, after having been *privat-docent* in Bonn (1855-57) and then gymnasial teacher in Duisburg, was in business as a printer and publisher: earlier in the same year had appeared his *Grundlegung der Mathematischen Psychologie*. After other changes of occupation, but always busy with philosophy, he resumed the academic life in 1870, as professor in Zürich, whence he passed to Marburg in 1872. He was also a writer of note on social and political questions, both as journalist and author. An English translation of his great work is now announced as in the press.

The hope of attaining a scientific phrenology, excited by recent physiological work on the brain, has led some French medical men and others to form a 'Society of mutual (!) Autopsy'. They say, truly enough, in their articles of foundation, that experiments on animals throw but little light on the phenomena of intelligence, and that if anything definite is known of the cerebral functions in man it has been learned by way of *post mortem* examination in hospitals. Here, however, the autopsy is marred through ignorance of the patients' antecedents, and by the fact that they belong generally to the uncultivated classes. To be in any way effective, it should be

made on the brains of men of culture and repute; and such examination, it is urged by the founders of the Society, besides increasing knowledge, would be of signal benefit to a man's descendants, as indicating weakness or morbid tendencies that might in them be checked. The members therefore bind themselves to make express disposition of their bodies, so that after death these and especially the brain and skull shall be subjected to investigation in 'the laboratory of anthropology'; interment of the remains afterwards to take place strictly according to the written directions of each person.

The Rev. John Fyfe, librarian of the University of Aberdeen, has been appointed by the Crown to the vacant chair of Moral Philosophy there.

The new German philosophical quarterly, referred to in our last number, has now appeared (in October) under the title of *Vierteljahrschrift der Wissenschaftlichen Philosophie.* It is edited by Dr. Avenarius; not, as was formerly stated, by Prof. Wundt, who with Drs. Göring and Heinze will only co-operate. The key-note of the journal is struck in the title. It starts from the position that Science is possible only on a basis of experience, and it will occupy itself with no Philosophy that is not in this sense scientific. Its range of topics will practically coincide with that of MIND. One feature in its scheme is original. Authors of philosophical works are invited to send in short statements (from a third to half of a page in length) of what they consider to be the new or characteristic ideas in their works: these notices will be printed, on the responsibility of the writers, if they appear of sufficient importance. The advantages of the plan to authors is obvious, and we shall gladly adopt it in MIND as a means of overtaking the great variety of native and foreign literature in philosophy.

Among existing philosophical journals, there is one, *La Critique Philosophique*, appearing weekly under the direction of M. Renouvier, which has not yet received from us the attention it deserves, though it was mentioned in No. III. (p. 437). This journal, which succeeded after a break to the yearly publication of *L' Année Philosophique* by M. Pillon (a disciple of M. Renouvier's), is now in its fifth year. M. Renouvier's position will be explained to English readers in an article on the present state of Philosophy in France which will appear in a forthcoming number of MIND, and for the present we must be content to mention below (as we hope to do regularly henceforth) the chief philosophical articles in the numbers of his journal for the last quarter. The journal discusses also political questions of the day.

JOURNAL OF SPECULATIVE PHILSOPHY. Vol. X. No. 1. G. S. Morris—'The Philosophy of Art'. J. Watson—'Empiricism and Common Logic'. . . . K. Th. Bayschoffer—'The Idea of Matter (Tyndall's Problem solved)'. Notes and Discussions. Book Notices. No. 2. J. Watson—'Kant's reply to Hume'. J. H. Pepper—'Darwin's *Descent of Man*'. . . . L. P. Hickok—'The two kinds of Dialectic'. H. Haanel—'Herbart's Ideas on Education'. . . . W. T. Harris (Editor)—'The Relation of Religion to Art'. Book Notices. No. 3. Editor—

'History of Philosophy in Outline'. J. Watson—'Hedonism and Utilitarianism'. T. Gray—'Science in Government'. J. Lachelier—'The Basis of Induction' (transl.). Kant's *Anthropology'* (section transl.).

Revue Philosophique. No. X. James Sully—'L'Art et la Psychologie'. J. Delboeuf—'La Logique Algorithmique' (ii.). E. Cazelles—'La Morale de Grote'. L. Ferri—'Le Procès de Galilée d'après des documents inédits'. Observations et documents—'La continuité et l'identité de la conscience du moi,' par A. Herzen. Analyses et comptes-rendus. Revue des Périodiques, &c. No. XI. L. Tannery—'La Géométrie Imaginaire et la notion d'Espace'. L. Dumont—'M. Delboeuf et la Théorie de la Sensibilité'. J. Soury—'L'Histoire du Matérialisme de Lange (ii.) Observations et documents—'De la transformation du sens de certains mots,' par A. Darmesteter. Analyses et comptes-rendus. Revue des Périodiques, &c. No. XII. J. Delboeuf—'La Logique Algorithmique' (fin.). Th. Ribot—'La Psychologie Ethnographique en Allemagne'. J. Soury—'L'Histoire du Matérialisme de Lange' (fin.). Analyses et comptes-rendus, &c.

La Critique Philosophique.—Vme. Année, Nos. 36-45. C. Renouvier—'Un point d'histoire naturelle mentale' (36); 'Les labyrinthes de la metaphysique: L'infini et le continu, Stuart Mill' (37), 'Herbert Spencer' (42), 'Hegel et M. Shadworth Hodgson' (44); 'De la resemblance mentale de l'homme et des autres animaux selon Darwin' (38). Bibliographie: Spencer, *Social Statics* (43); Michaut, *De l'Imagination* (45).

La Filosofia delle Scuole Italiane.—Vol. XIV. Disp. 1. F. Bonatelli—'La Filosofia dell Inconscio'. T. Mamiani—'Della Evoluzione'. Bulgarini—'Sul trattato della Coscienza del Prof. Ferri'. Bibliografia, &c. Disp. 2. T. Mamiani—'Della Evoluzione'. L. Ferri—'Il metodo psicologico e lo studio della coscienza'. Mamiani—'Filosofia della religione'. A. Valdarnini—'Effetti delle moderne teorie filosofiche nelle scienze morali e sociali'. Bibliografia.

Vierteljahrschrift für Wissenschaftliche Philosophie.—I. Heft i. R. Avenarius—'Zur Einführung'. Fr. Paulsen—'Ueber das Verhaltniss der Philosophie zur Wissenschaft'. A. Riehl—'Die Englische Logik der Gegenwart'. W. Wundt—'Ueber das Kosmologische Problem'. J. Kollmann—'Aus dem Leben der Cephalopoden'. Selbstanzeigen. Bibliogr. Mittheilungen.

Zeitschrift für Philosophie, &c.—Bd. LXIX. Heft 1. Steffens—'Gewinn für die Kenntniss der Gesch. der griech. Phil. aus den Schriften des Aristoteles' (Schluss). Richter—'Kant als Aesthetiker'. Rehnisch—'Untersuchungen u. Ergebnisse der Moralstatistik' (ii.). Recensionen. Heft 2. Spicker—'Mensch u. Thier'. Müllner—'W. Rosenkrantz' Philosophie' (i.). Recensionen. Bibliographie.

Philosophische Monatshefte.—Bd. XII. Heft 6, 7. E. Bratuscheck—'Summi in philosophia honores'. Krohn, *Studien zur sokratisch-platonischen Literatur* (recens.); I. H. Fichte, *Fragen u. Bedenken über die nächste Fortentwicklung deutscher Speculation* (recens). Bibliographie. Heft 8. Spicker, *Kant, Hume u. Berkeley* (recens.); Hermann, *Aesthetische Farbenlehre* u. *Die Aesthetik in ihrer Geschichte u. als wissenschaftliches System* (recens.); Heppe, *Geschichte der quietistischen Mystik* (recens.). Bibliographie, &c. Heft 9. H. F. Müller—'Plotin u. Schiller über die Schönheit'. Paulsen, *Kantische Erkenntnisstheorie* (recens.); Hume, *Untersuchung in Betreff des mensch. Verstandes*, übers. von Kirchmann (recens.). Todtenhaupt—'Mechanismus u. Teleologie'. Bibliographie, &c.

Erratum.—In No. IV., p. 562, l. 4, for *when* read *where*.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—MR. SPENCER'S *PRINCIPLES OF SOCIOLOGY.**

Mr. Herbert Spencer has now set himself to "crown the edifice" of Evolutionary Philosophy, the present volume being the first of two devoted to systematising the principles of man's social development. It is to be regretted that weak health has made it expedient for him to publish this first volume in a slightly incomplete state, rather than keep his readers waiting for months till he should be able to add some final pages. Practically, however, this deficiency has no ill effect, for Mr. Spencer's arguments are usually complete so far as they go, and the separate departments of this volume may be criticised without fear of the author's conclusions being altered in later chapters.

In acceding to the wish of the Editor of Mind that I should make such comments as occurred to me on Mr. Spencer's system of Sociology, I do not undertake a formal review of it as a whole. But as a worker for many years on the ground where Mr. Spencer is now engaged, I am desirous of noticing where he has followed lines already traced, where he has gone farther and excavated deeper than those who went before him, and where he has been led, as the ablest men are at times, to waste his labour in blind cuttings. To me such examination is particularly interesting with regard to the chapters occupying about half this volume, in

* *The Principles of Sociology*, by Herbert Spencer. Vol. I., 1876. Williams & Norgate.

which Mr. Spencer treats of the evolution of religious doctrine and worship. These chapters may, I think, be properly described as a new statement, with important modifications and additions, of the theory of Animism which (to pass over less complete statements in previous years) was given by me in summary in the *Journal of the Ethnological Society* for April 26th, 1871, and was worked out with great fulness of detail in my *Primitive Culture*, published in 1871. Stated shortly, this theory is, in the first place, that a conception of the Human Soul is a crude but reasonable inference by primitive man from obvious phenomena. Man has two things belonging to him, his phantom and his life. The human shapes which appear in dreams and visions seem to the savage to be real objects, connected with the bodies whose image they bear, but separable from them so as to be capable of presenting themselves to people at a distance. The life which seems to be present in the active waking healthy living man, but absent or lessened in sleep, lethargy, disease, and death, is also something connected with the body, but separable from it. The outcome of these two sets of considerations is the primitive and savage doctrine of a ghost-soul, which accounts under one head for dreams and visions and for life and death. In the second place, the notion of a ghost-soul as the animating principle in man, being once arrived at, is extended by easy steps to souls of lower animals, and even of lifeless objects, as well as to the general conception of spirits and deities, who are as it were souls of nature, and the belief in whose presence furnishes the savage with a rational explanation of facts and events which require accounting for. On this view of Primitive Animism, the general belief in souls and deities is not ultimately derived from occult tendencies in man or revelations to man, but is based on the philosophy of remote rude ages, whose doctrine has been only more or less modified in modern theologies. It need hardly be said that such a view of the origin of fundamental theological ideas is revolutionary. If it, or anything like it, can be proved to the satisfaction of the educated world to be the true view, then the generally received systems of theology must either be developed into systems more in harmony with modern knowledge, or they must after a time be superseded and fall into decay. It is thus a matter of importance to the world that Mr. Spencer, a philosopher whose systematic thought and persuasive argument act forcibly on the world's opinion, should treat the development of religious ideas on the animistic line. Though he does not adopt the term Animism, his system agrees with it, not merely in some special conclusions, but in its two fundamental positions, the origination of the idea of a human soul and the evolution from this of all other ideas of spirits and

deities. How far his conclusions have been arrived at independently of mine I cannot say, nor is this a matter of much consequence. Indeed it seems to me that, in its main principles, the theory requires no great stretch of scientific imagination to arrive at it, inasmuch as it is plainly suggested by the savages themselves in their own accounts of their own religious beliefs. It is not too much to say that, given an unprejudiced student with the means (only of late years available) of making a thorough survey of the evidence, it is three to one that the scheme of the development of religious doctrine and worship he draws up will be an animistic scheme. But as yet both the evidence and the arguments are very imperfect, and those who agree in the main theory may diverge widely in its subordinate branches. In comparing Mr. Spencer's system with my own, I am naturally anxious to see where the later writer differs from the earlier, and where for the better and where for the worse.

Before entering on the problem of the origin of religion, Mr. Spencer prepares the way by an interesting study of the mental condition of primitive man, whose vagueness of ideas and looseness of reasoning must be taken well into account in investigating ancient phases of theology. Here, however, there already comes into view a tendency of the author's for which readers must be warned to make allowance. In dealing with the phrases by which rude races convey their thoughts, he is prone to a tightness of interpretation which their loose, unscientific languages will not bear, and which may give wrong notions of what actually passes in their minds. Thus the following passage is quoted by him (p. 118) as proof of extreme inconsistency in the minds of the natives of Madagascar—"In almost the same breath, a Malagasy will express his belief that when he dies he ceases altogether to exist . . . and yet confess the fact that he is in the habit of praying to his ancestors". But even among modern Englishmen we hear it said that "It is all over with poor So-and-so—he is no more—well, perhaps he's better off where he is". We know well enough what is meant by this, and that it really involves no gross inconsistency. Curiously enough, Mr. Spencer has overlooked the fact that the very passage he quotes (which is taken from Ellis's *History of Madagascar*, vol. I., p. 393) is there followed by a sufficient explanation of what the Malagasy actually means. "If asked, were his ancestors not human beings like himself, and did they not cease altogether to exist when they died—how then can it be consistent to pray to them when they have no longer any being, he will answer, 'True, but there is their matoatoa,' their ghost; and this is supposed to be hovering about the tomb when the body

is interred," &c. The whole account goes to prove that the Malagasy really holds his animistic belief about as consistently as do our own theologians. It may here be remarked that the besetting sin of us all who study primitive ideas is to treat the savage mind according to the needs of our argument, sometimes as extremely ignorant and inconsequent, at other times as extremely observant and logical, there being abundant statements of travellers forthcoming which can be used in support of either view. Mr. Spencer, with all his evident desire to be impartial, has not always shaken himself free of this tendency. Thus (in Appendix B) when he is arguing against Prof. Max Müller's views of the sources of myth in the minds of uncultured men, Mr. Spencer insists on their minds being devoid of rational curiosity as to nature, and argues that in early stages the intellectual factor required for myth-making is wanting till long after the ghost-theory has originated a mechanism of causation. In this connection he cites a remark by Dr. Rink as to the Esquimaux, that "existence in general is accepted as a fact, without any speculation as to its primitive origin". Now this is rather hard on the Greenlanders (who are Dr. Rink's Esquimaux), seeing that they not only have a well-developed mythology but a well-developed animistic theology; and in other places (pp. 131, 157, 164, 192, &c.) Mr. Spencer himself cites their notions of dreams, shadows, ghosts, &c., as evidence of the very development of such speculative ideas as he here denies to them. He even attributes to them a philosophical subtlety which seems beyond what they can claim. Referring to their well-known notion that man has two souls, his shadow and his breath, and that the soul goes out hunting and visiting in dreams, he brings in the additional refinement that the shadow, which becomes invisible at night, is that soul which at night wanders away and has adventures. This he states on the authority of Cranz, but it seemed to me too good to be true, and on referring to my copy (the original German edition of 1765) I find that the words of the old missionary do not justify it. On the whole it appears that Mr. Spencer, in handling the evidence of savage ideas, is apt to find the utmost strictness and coherence in their philosophy, while unduly pushing aside proofs of their mythic and poetic fancy, which are really not less forcible.

In carrying on the consideration of the savage state of mind, Mr. Spencer introduces (p. 119) an important element which has hardly been brought into notice before. On few subjects must primitive views of nature have suffered more alteration than as to the possibility of transformation or metamorphosis. The savage watches a cloud drifting away and vanishing in the sky; he sees the stars appear and disappear; flashes of lightning

cross the heavens for an instant and are gone; the raindrops form pools of water which in a few hours gradually depart; shadows and dreams are beheld for a time and then all at once they are not. Growth shows changes hardly less great: from the seed springs the shoot, and then the flower; out of eggs come chicks; the caterpillar turns into the chrysalis and thence issues the butterfly; every carcase and mudbank show spontaneous generation of animals; while fossils seem to prove that animals and plants may be turned into stones. Such phenomena, without the explanation which the world owes to later science, must impress on the uncultivated man a scarcely limited belief in transformation. Thus it does not strike a barbarian as at all incredible that a man should turn into a rock or a tree, or that his personality should become invisible yet still go to and fro, like the wind which he cannot see even when he is struggling in its violent grasp. This argument of Mr. Spencer's will do much to clear a way in the minds of unprepared readers for a fair appreciation of what the belief in spirit-life must mean in savage or primitive thought.

Of even more consequence is the treatment (p. 143, &c.) of the opinion that the primitive mind tends to ascribe life to things which are not living. This is the assumption which lies at the basis of Auguste Comte's famous theory (founded on that of De Brosses in the last century) of Fetishism as the primitive phase of religion, in which man conceived of all external bodies as animated by a life analogous to his own, and accordingly could deify and worship not only animals, but even trees and stones, in fact any object whatsoever. Anthropologists of the present generation owe much to Comte, whose theory of the origin of religion must, however, be displaced by the very inquiries it has led to. Mr. Spencer, as his earlier essays show very fully, was one of those who accepted Comte's doctrine of primitive Fetishism. In the present work, however, not only does he discard Comte's idea of the primitive conception of Fetishism, which he reduces (as I had done) to a secondary development of the doctrine of spirits, but he now attacks Comte's position at its very basis, by disputing the assertion that children do seriously suppose life in the dolls or chairs which they treat as alive in play. This is, as he argues, mere dramatising, and the child would be as utterly astonished as we should be, if the doll were really to bite. Following this up at p. 343, he argues that the primeval man would be as little likely to gratuitously confuse a mere fetish object with a living creature. Mr. Spencer's reasoning is most forcible and will strengthen the position of the doctrine as the underlying cause not only in fetish-worship but in nature-

worship with its great deities. One may doubt, however, whether he does not go too far in cutting away from primitive life the personifying faculty to which both mythology and religion owe so much. To both the child and the savage, human will is the first-conceived source and reason of action, and the early myth-maker probably found it as easy as a modern child does to invest sun and stars, clouds and rivers, rocks and trees, with a personality drawn from human life. Many readers who go on to find what artificial devices Mr. Spencer is driven to in explaining the origin of nature-myths, will come to the conclusion that his criticism of Comte's doctrine has gone too far in sweeping it away, good and bad together. He has emptied out the bath with the baby in it, as the German proverb says.

It is not necessary to go into details as to the chapters on the origin of the doctrine of the human soul, as founded on a rational interpretation of phenomena such as sleep and dreams, trance and death, &c., except on special points. It is to be noticed that, in stating the effect of dreams in proving to the savage that man has beside his body a second self or soul, Mr. Spencer (p. 151) strengthens the case by pointing out that somnambulism tends to confirm the belief, as proving that men may really go away during their sleep and do the things they dream of doing. Also (p. 154) he draws attention to the effect which a belief in dreams being real events must produce on the uncultivated man's notion of the possibilities of nature. In his dreams he finds himself flying through the air, or sees his companion suddenly turn into a wild beast; thus it is not strange that he should believe that such things really happen in life. I have argued *(Prim. Cul.*, vol. I., p. 496), that the philosophical notion of ideas is directly derived from the savage notion of the souls of animals and things, itself mainly derived from the appearance of their phantoms in dreams. Mr. Spencer (p. 156) goes further, endeavouring to trace from the experience of dreams the development of the whole conception of mind. The primary hypothesis which grew up to account for dreams was the hypothesis of two entities in man; transform the second entity (or soul) by dropping physical characters irreconcilable with the facts, and the modern hypothesis of a mental self or mind becomes established. It is to be desired that Mr. Spencer should expand this daring (but I venture to think highly reasonable) argument beyond its present short statement, and put it in full fighting order to receive the blows which the metaphysicians will aim at it.

The well-known evidence from the beliefs of uncultured

nations is next adduced by Mr. Spencer to show how the savage conception of the soul serves its purpose in accounting for such vital phenomena as trance, lethargy, &c., when the soul is supposed to be out of the body, and for the recovery of the patient to normal life by the soul's supposed return. Death is of course looked on under this animistic theory as the result of the soul's permanent departure. It is to be noticed, however, that Mr. Spencer, in following up the course of these ideas, gives the argument several new turns. The fact of death is not at once certainly apparent even to our modern medical knowledge, and to the savage it must remain doubtful for an indefinite time whether the cessation of vital functions is only a prolonged insensibility, which may be put an end to by the other self or soul returning. To the practices which would arise during this doubtful interval, while the bystanders were still uncertain whether to treat the body as alive or not, Mr. Spencer refers the origin of a number of funeral rites, as where among the Arru (not Assu) islanders, several times during the few days after one has died, they try to make him eat, filling the corpse's mouth with food and arrack till it runs over the floor. That this matter-of-fact proceeding should have been the first stage of the ceremony of offering food to the dead, afterwards carried on less materially in sacrifice, is a suggestion of great interest. That the preservation of the corpse by drying and embalming has often been intended to keep the body for the life or soul to return to, is well known by direct historical evidence. But Mr. Spencer's remarks on the subject make much clearer than heretofore the intimate connection between the primitive notion of death being only a temporary departure of the soul from the body, and the theological doctrine of bodily resurrection, which has been so little affected by the growth in our knowledge of biology and chemistry, that "on 5th July, 1874, the Bishop of Lincoln preached against cremation, as tending to undermine the faith of mankind in a bodily resurrection". To the primitive savage, however, the notion of the corpse being resuscitated a few days hence was a practical probability of present concern, while after many ages the civilised man transferred it into the indefinite future, and it passed into a theological tenet referring to a future life. In connection with the doctrine of bodily resuscitation, Mr. Spencer refers to the well-known savage or barbaric rite of the survivors mutilating themselves as an act of mourning or propitiation, as by cutting off finger-joints, clipping locks of hair, or lacerating themselves to draw blood. It has for many years been well understood by writers on the history of religions, that at least part of these proceedings are sacrifices of a part of

the mourner's body to represent the whole, and this view Mr. Spencer adopts. But how he makes out (p. 180) that such rites imply the belief in bodily resurrection rather than some more spiritual phase of the belief in future life, does not seem clear, and one would think some part of the argument may have been left out. Passing on (p. 201) to the practices of placing near or burying with the corpse a supply of food, weapons, garments, &c., Mr. Spencer seems to take as their original intention that they were to be materially used by the dead on resuscitation. This must be admitted as at least possible, and indeed the idea, so far as it existed, would serve as a stepping-stone to the more prevalent barbaric intention, that the soul of the dead man should use on his journey to the spirit-world, or after he got there, what may be called the souls of the weapons and garments and other things sacrificed. There is proof enough that this came in at a very early stage of thought, and indeed it seems involved in the common habit of the lower races to break or burn the objects offered, an act which flatly contradicts the idea of the corpse coming to life again and using the things themselves, while it is fully consistent with the idea of dispatching their souls for the use of the man's soul. As for the funeral sacrifice of animals and men with the dead, this is so rational an outcome of the notion of the soul departing from the body at death, that there seems ground for referring it to the fully developed animistic stage. It is indeed a necessary corollary from the primitive dream-theory of souls, that mere things should have souls (object-souls as I have called them), inasmuch as their phantoms actually appear in dreams or visions, as obviously as men's own phantoms. Mr. Spencer of course admits the existence of stages of religion when people not only believed in the existence of souls of men, animals, and things, but when they dispatched all sorts of such souls by funeral sacrifice for the use of the dead man's soul. The question between us is this, that Mr. Spencer brings the notion of wife and slave-sacrifice into close connection with the putting of food or other things to be materially used by the returning dead, while this, it seems to me, is anticipating the actual course of belief. But the subject will require more sifting.

Savage religions, as they assume the existence of the ghosts of the dead who appear to the living in dreams, have to deal with the question where is the land of souls, the abiding-place of these ghosts. This question they answer in a number of ways. Perhaps the most primitive may be that the ghosts continue near the corpse, or hover about among the living, who indeed often desert the house of the dead and leave it to the ghost. But it is also believed by many tribes that the land of souls is

in some distant part of the country, or on mountain-tops or remote islands, or down in some cavernous recess or under-world below the earth, or up in the sky. In fact, the ghost-land is located by the savage theologian in almost every possible region he can think of, and there is some difficulty in assigning the reasons which may have led him to the choice of each. Mr. Spencer's contribution to this subject in several points advances it, but sometimes his suggestions seem less reasonable than those of previous writers. No doubt, for instance, savages who have migrated from some distance often suppose their ghosts to return to the home-land, which thus becomes, in their tradition, the land of souls. But savage tribes, who, it should be remembered, appreciate geographical direction with tolerable accuracy, give accounts of the direction of the spirit-land, which show the insufficiency of any attempt to explain them as due to mere recollection of migration. Mr. Spencer's own instances (p. 221) are enough to prove that he has neglected some important factor in the case. Tribes hardly migrate from the west rather than from the north or south, or from intermediate points such as north-west. Yet of the fourteen localities he gives for the land of souls, seven are in the west against three in the east, three in the north and only one in the south. This does not at all exaggerate the actual preponderance among mankind of the belief that the land of souls or its entrance is in the west where the sun goes down. And if we ask where the sun goes down to, there are plenty of tribes ready with the answer that there is below the earth an under-world into whose cavernous recesses the sun descends. When Mr. Spencer has to account for the world-wide belief in a subterranean Hades peopled by the ghosts of the departed, all he has to offer is the suggestion that it arose from dwelling and burying the dead in caves. This latter idea has been suggested by several writers, and is reasonable enough as an accessory cause of the belief in Hades, but is no more equal to explaining the whole belief in an under-world of the dead, than the notion of migration is equal to explaining why the land of Hades is entered from the west. To understand the mass of different beliefs on this subject, it is necessary to give proper weight to the distinct notions of primitive cosmology, that there is an under-world into which the sun goes down at night, and to this must be attached the natural inference known among the lower races, that in this subterranean Hades the ghosts, invisible in the daytime, have their home, rarely coming up to earth except in the night, when ghosts appear and when the time is for dreams. One cannot but think that Mr. Spencer's omission of these well-known points may be due to a dislike of anything like sun-myth. But such solar ideas, whether belong-

ing to myth or to rude science, do indisputably arise in the primitive mind, and exercise an influence on the formation of belief which cannot be ignored. Again, some other explanations which Mr. Spencer resorts to seem hardly strong enough to bear the stress laid on them. Thus the practice of burying the dead on mountain-tops is no doubt sometimes connected with the idea of these places being the resort of ghosts (p. 218). But the author goes on to argue (pp. 229-32) that this may have led by confusion of ideas to the notion of the spirit-world being in the heaven itself, so that the mountain-stronghold of a conquering race may have led the inferior tribes around to belief in a heavenly paradise of divine beings, the chief of the tribe being promoted to divine dignity as the thunder-god. Of course there is a possibility of such ideas having sometimes arisen in such ways, but it would require strong evidence to persuade us that mountaineers ever really came to be taken for spirits dwelling in the sky; and it is unfortunate that Mr. Spencer, who offers fair evidence in support of notions comparatively easy of belief, should here draw so largely on his reader's imagination. Before quitting the subject of primitive ideas of a world after death, notice should be taken of an ingenious hypothesis, though this is not the place to discuss it properly on the evidence. It is well known that the religions of numerous nations, savage and cultured, recognise the notion of a river which the departed soul has to cross by bridge or ferry or otherwise, to reach the land of souls on the other side. How did this idea of a river of death occur so often to the savage imagination? Mr. Spencer suggests (p. 224) that it was started among tribes by the tradition of an actual migration from the country of their forefathers. As they had no boats with them, some large river to be crossed was naturally a chief obstacle to overcome, and the re-passing it would be regarded as a chief obstacle on the journey made by the dead back to the home-land of their nation, now become their spirit-land. It is not impossible, he continues, that the conceived danger of this river-crossing may have led to the idea that spirits cannot pass over running streams.

The argument of the present work (ch. xvi., &c.) as to the development in primitive belief, by which the original human ghost-souls gave rise to the class of pervading spirits or demons, runs nearly parallel with my own *(Primitive Culture*, chap. xiv., &c.). A vast proportion of the spirits imagined by men never even lose their original quality of being human ghosts or *manes;* as such they enter or possess men, causing madness, disease, or inspiration, persecuting them or tending them as guardian spirits, killing them or saving their lives. Beliefs ancient and modern in demoniacal possession and beset-

ment, in inspiration by deities and accompaniment by guardian spirits, as well as exorcism and kindred rites resulting from such beliefs, are developed from the primitive animistic conception, and these phantom-beings pervading the universe become the personal causes of events. Thus the spiritual series, beginning with human souls, extends on into other special classes of spirits, of whom some are mere minor demons, angels, elves, &c., while some few rise to the rank of great deities, controlling man and nature. There is no real break in the whole series of conceptions which begins with the human ghost and ends with the highest divinity; nor is there the least difficulty in understanding how the prayer and worship and offering, at first addressed to the human ghost who is propitiated by them in the most absolutely human way, came to be addressed with more or less change of meaning and expansion of ceremonial by the priest to the divinity in his temple. But though the general course of development seems clear enough, there are many open points in the details which will require years of careful study to settle. One part of the matter is brought into new clearness by Mr. Spencer when (p. 272, &c.) he sketches the probable transition from the burial-place, whither the survivors came with food to propitiate the ghost still lingering there, to the stately temple, the abode of a ghost-like deity, who received there his solemn sacrifices. I think, however, that Mr. Spencer scarcely recognises enough the development of the idea of spiritual beings, in which the primary ghost-nature is almost lost, and the demon or nature-spirit assumes an independent character distinct from humanity. Not to dwell on other parts of the exposition, which will be approved as a matter of course by readers who accept the general principles of animistic development, I wish to devote my remaining remarks to two subjects where Mr. Spencer may seem to others, as he does to me, to extend parts of the theory till they stand on unsafe ground. I refer to his scheme of the origin of animal-worship, and of the great polytheistic divinities.

Taking animal-worship in general as a disguised form of ancestor-worship, Mr. Spencer assigns (ch. xxii.) the causes which, in his opinion, have led men to worship such lower creatures. Due importance is given to the effect of beliefs in animal transformation (as in the familiar cases of were-wolves and man-tigers), as also of the doctrine of transmigration of souls into animal bodies, which are often recognised as incarnations of the dead by their frequenting their old homes (as in the case of tame house-snakes thought to be returned ancestors), or by their being found near the burial-place. All this is plain enough, but Mr. Spencer lays much greater stress on another

cause—the misunderstanding of personal names. A man is called Tiger; he dies, his great-grandchildren hearing from their parents in their rude indefinite phrases the name of this ancestor, suppose themselves to be descended from an actual tiger, and thence arises the belief in a divine tiger-ancestry, and a worship of tigers. Now, though Mr. Spencer seems to have no actual proof that anything amounting to this has ever actually happened, yet it must be allowed that such proof would be difficult to get at. So let us admit at least the possibility of its having sometimes happened, thus accepting it as one of the various mythical processes which may have contributed to animal-worship. But the question is, whether such a possible cause is at all commensurate with the great place in the religion of the world ascribed to it by Mr. Spencer. Look at such a case as that of the Patagonians, divided into animal castes or families, such as the caste of the tiger, the lion, the guanaco, and the ostrich, each of these castes being presided over by a particular deity—its creator. Is it in accordance with probability that such a systematic division should have arisen from chance-misunderstanding of the names of four ancestors, who happened by chance to be provided with convenient names to make up a neat symmetrical set of animal-totems? Moreover, it is not once, but a number of times, and in distant regions of the globe, that such symmetrical sets of clan-names have to be accounted for, as, for instance, among the Bechuanas with their division into the clans of the crocodile, fish, lion, wild vine. This hardly looks like the result of chance verbal misunderstanding of one particular class of personal names, which happened to be taken from animals and plants. The present theory was published by Mr. Spencer in his paper "On the Origin of Animal-Worship" in the *Fortnightly Review*, May, 1870. Mr. A. Lang, in the same periodical, 1873, objected that early man knew too little as to who his progenitors were. It is a point which any ethnologist would notice, that the very tribes most distinguished for their division by animal-totems reckon descent not on the male but on the female side. Thus a North American who belongs to the clan of Wolf, inherited this totem not from his father, or grandfather, or great-grandfather, but from his mother; yet, if a personal name at all, it was a man's and not a woman's. A remark of Mr. Spencer's (p. 667) meets this, though in a way which seems to me to show how artificial his hypothesis is:—"Commonly the names of the clans which are forbidden to intermarry, such as Wolf, Bear, Eagle, Whale, &c., are names given to men; implying, as I have before contended (§ 170-3), descent from distinguished male ancestors bearing those names—descent which, notwithstanding the system of female kinship,

was remembered when there was pride in the connection". For my own part, I cannot think that Mr. Spencer's ingenious guess has solved the mystery which still hangs over the origin of the totem-system, and over that large part of animal-worship which cannot be explained as resulting either from direct worship by savages of powerful, dangerous beasts like the bear or tiger, or from the notion that beasts are transformed men, or inhabited by human souls, or fetishes, or incarnations of other spirits.

Turning now to Mr. Spencer's explanations of the great deities of polytheistic religion, it is well known that many of them simply result from expansion and idealisation of divine ancestors, actual or imagined. Even in our own time, in India or South Africa, the soul of a deceased warrior or sorcerer may pass into a local deity of some importance, and the apotheosis of a Roman Emperor may be paralleled among the modern Polynesians whose kings were talked of with divine attributes even in life, and became great celestial potentates at death. And when barbaric theology works back in imagination to first ancestors, it readily produces for belief and worship such great divine beings as the Unkulunkulu of the Zulus, the Old-old-one, ancestor, god, and creator. Nor is there any difficulty in believing that a real man distinguished for any particular art or power should become a patron-god of his particular department, much as St. Peter is the patron saint of fishmongers. All this is part and parcel of the animistic theory of religion. But Mr. Spencer seems to stretch the principle of deities being actual ancestors deified somewhat far. Thus (p. 417) he treats the Kamchatkan legend of Kutka, maker of heaven and earth and first father of men, as founded on recollection of a real early ancestor. Maybe; but the stories the natives tell of him are mostly the wildest of fables, and it is quite as easy to invent names for the inferred first pair of ancestors, the Adam and Eve of a race, as to remember actual ancestors for many generations. Some cases where Mr. Spencer's view admits of being tested, hardly look encouraging. Thus (p. 313) he treats as a real remembered ancestor the divinity named Quiateot, who the Nicaraguans said sent them the rain, their account of him adding that he is a man and has father and mother, and those dwell where the Sun rises in heaven. If, however, we look at the etymology of the name Quiateot, it is seen simply to mean Rain-god (Mexican *quiahuitl*—rain, *teotl*—god), which much lowers the probability of its having been a real ancestor's name. Mr. Spencer's theory leads him (p. 422) not only to introduce seriously the so-called "historical" Odin, who is written of in the *Heimskringla* as an ancient invader-king and sorcerer in Scandinavia, but he even treats him as the real personage from whom the process of ancestor-worship de-

veloped the Scandinavian deity, Odin the All-father. That is to say, a legend which rests on the authority of a chronicle of the 13th century, and which, from a historical point of view, stands about on a par with the legend of Brutus of Britain, is offered as explaining the existence of a divinity whose real antiquity is shown by his belonging to both the Teutonic and the Scandinavian nations, as far back as there is distinct record of their pantheon, and notwithstanding their long-diverged history and languages. Mr. Spencer here engages his theory in conflict not merely with the speculations of mythologists, but with the canons of sober historical criticism.

A scarcely less weak point, it must seem to many students, is exposed by Mr. Spencer in chap. xxiv., where he constructs a general theory to account for the great nature-gods of polytheism, from misunderstanding of personal names of real ancestors, and other mere verbal misunderstandings which, when repeated on authority, are supposed to have passed into religious beliefs. For instance, people reaching a foreign shore in boats may be called "men of the sea," or by an easy transition, "children of the sea," whence legend may evolve a conception of the Sea itself as a divine parent (p. 395). Or if a tribe migrates from the east and hence comes to be called "children of the sun," this is a source out of which the conception of the Sun as a divine ancestor may arise (p. 406). Or some noted warrior may be called Sun (as Pedro de Alvarado was by the Aztecs from his frank, fair countenance, and golden hair), or a king may be compared metaphorically with the sun, as many indeed have been; and hereby again later generations may be led to believe in a divine Sun or Sun-god. Or when a man is named Dawn (a real instance is given of a New Zealand chief called Heavenly Dawn, from his having been born at sunrise), and such a man becomes noted and traditions of him are handed down in which uncritical savages identify him with the real dawn, then the adventures would be interpreted in such a manner as the phenomena of the dawn made most feasible (p. 399), and thus would be produced one of those legends which mythologists call dawn-myths. Now Mr. Spencer of course never adduces as a cause anything that is actually impossible, and divine myths and beliefs may have at times grown up in such ways. To take the most probable case here given, it is mentioned (p. 394) that the Santals worship as their national god, Marang Buru, the great mountain (the name is misspelt Nurang), and his explanation of this is that the people, who regard the eastern Himalayas as their natal region, have confounded the notion of a mountain being the source of their race with that of a mountain being a personal parent, a divine ancestor. It may be so, though one would like rather stronger

evidence. But when we look at the polytheistic systems of the world at large, it is seen how consistently the same great divinities re-appear among remote tribes; in all quarters of the world are found representatives of the Heaven-god, the Earth-god, the Sea-god, the Sun-god, the Moon-god, the Wind-gods, &c. The question at once suggests itself: Did concatenations of verbal blunders happen scores of times among scores of different nations, so as after all to work round to the simple result that savages and barbarians are apt to recognise among their chief gods certain personal divinities who are attached to or embodied in the great obvious phenomena of nature? I cannot but think that on comparison of the verbal misunderstanding-theory with the facts of polytheism which it has to account for, it will be rejected as having the doctrine of chances against it. To account for the prevalence of polytheistic nature-worship, we must ascribe it to some consistent common cause acting on men's minds. For my own part, I fail to see anything to object to in the ordinary notion that savages do directly personify the Sun or the Sky, the Winds or the Rivers, treating them as great beings acting by will, and able to do good or harm to men. It is the easiest way in which rude minds can contemplate them. It is favoured by the ambiguity of language which arises from speaking of inanimate objects in the terms applied to persons, as in an example of Mr. Spencer's own, where a child seeing a great meteor, exclaims, "O, mamma, there's the moon rinnin' awa'". And when in early stages of religion the notion gained ground of nature-spirits made after the likeness of human souls, the great powers of nature would be more and more identified with divine personal beings, glorified developments of the same original human type. While fully agreeing with Mr. Spencer in thinking that many of the current speculations on the origin of "nature-myths" to be met with in modern books on comparative mythology are mere fancies, as mythical as the myths themselves, I cannot but think he has gone too far in the opposite direction by so far ignoring the myth-making tendency of primitive man. This is too large a subject to discuss at the end of a notice like the present, but it is needful to mention it, as it is in rivalry with this theory of mythic personification of nature that Mr. Spencer brings into such prominence the hypothesis of verbal misunderstandings.

In conclusion, it is proper to mention the reason which has led me to dwell so much more on the points where Mr. Spencer's views differ from my own, than on the branches of the subject, really more both in number and consequence, as to which I have the high satisfaction of finding my own inferences from the facts to be in unity with those arrived at by so

eminent a thinker. My object in so often taking the line of a fault-finder is mainly this. As yet there is but a limited number of students who seriously occupy themselves with the problem of the development of religious ideas as viewed from the ethnological standing-point. Probably in a few years' time public interest in this great problem will be much wider and deeper, a result to which the present work must largely contribute. When this happens, a vast controversy will no doubt set in, for which it will be advantageous to ethnologists to be well prepared beforehand. The previous interval may therefore be well turned to account in settling discrepancies as to subordinate points, so that the weaker parts of the theory of animistic development may be cut out and their places supplied with stronger evidence and reasoning. Mr. Spencer's work seems to me to do this in several branches of the subject, and notably as to ancestor-worship and fetishism. It is the best acknowledgment of the importance of the work at once to raise objection to the points which seem objectionable, that it may be settled as soon as possible whether the author will be able to maintain them or not.

EDWARD B. TYLOR.

II.—CONSCIOUSNESS AND UNCONSCIOUSNESS.*

SCIENCE demands precision of terms; and in this sense Condillac was justified in defining it "*une langue bien faite*". The sciences of Measurement are exact because of the precision of their terms, and are powerful because of their exactness. The sciences of Classification cannot aspire to this precision, and therefore, although capable of attaining to a fuller knowledge of phenomena than can be reached by their rivals, this advantage of a wider range is accompanied by the disadvantage of a less perfect exposition of results. While physicists and chemists have only to settle the significance of the facts observed, biologists and social theorists have over and above this to settle the significance of the terms they employ in expressing the facts observed. Hence more than half their disputes are at bottom verbal.

This is markedly the case in the question of Automatism. One man declares that animals are automata; another that they are conscious automata; and while it is quite possible to hold these views and not practically be in disagreement with the views

* From a forthcoming volume on *The Physical Basis of Mind.*

of ordinary men, or indeed with the views of spiritualist and materialist philosophers, we can never be sure that the advocates of Automatism do not mean what they are generally understood to mean. If a man says that by an automaton he does not here mean a machine, such as a steam-engine or a watch, but a vital mechanism which has its parts so adjusted that its actions resemble those of a machine; and if he adds that this automaton is also conscious of some of its actions, though unconscious of others, we can only object to his using terms which have misleading connotations. If he mean by "conscious automata," that animals are mechanisms moved on "purely mechanical principles," their consciousness having nothing whatever to do with the production of their actions, then indeed our objection is not only to his use of terms, but to his interpretation of the facts.

The questions of fact are two: Are animal mechanisms rightfully classed beside machines? and, Is consciousness a coefficient in the actions of animal mechanism? The first has already been answered; the second demands a preliminary settlement of the terms "conscious," "unconscious," "voluntary," and "involuntary". The aim of Physiology is to ascertain the particular combinations of the elementary parts involved in each particular function—in a word, the mechanism of organic phenomena; and the modern Reflex Theory is an attempt to explain this mechanism on purely mechanical principles, without the co-operation of other principles, especially those of Sensation and Volition. It is greatly aided by the ambiguity of current terms. We are accustomed to speak of certain actions as being performed unconsciously or involuntarily. We are also accustomed to say that Consciousness is necessary to transform an impression into a sensation, and that Volition is the equivalent of conscious effort. When, therefore, unconscious and involuntary actions are recorded, they seem to be actions of an insentient mechanism. The Reflex Theory once admitted, a rigorous logic could not fail to extend it to all animal actions.

I reject the Reflex Theory, on grounds hereafter to be urged, but at present call attention to the great ambiguity in the terms "conscious" and "unconscious". In one sense no definition of Consciousness can be satisfactory, since it designates an ultimate fact which cannot therefore be made more intelligible than it is already. In another sense no definition is needed, since every one knows what is meant by saying, "I am conscious of such a change, or such a movement". It is here the equivalent of Feeling. To be conscious of a change, is to feel a change. If we desire to express it in physiological terms, we must define Consciousness—"a function of the organism"; and this definition we shall find eminently useful, because the organism being a vital

mechanism and the integrity of that mechanism being necessary for the integrity of the function, while every variation of the mechanism will bring a corresponding variation of the function, we shall have an objective guide and standard in our inquiries. Organisms greatly differ in complexity, yet because they also agree in the cardinal conditions of Vitality, among which Sensibility is one, we conclude that they all have Feeling; but the Feeling of the one will differ from that of another, according to the complexity of the sentient mechanism in each. The perfection of this mechanism lies in the co-ordination of its parts, and the consensus of its sentient activities; any disturbance of that consensus must cause a modification in the total consciousness; and when the disturbance is profound the modification is marked by such terms as "insanity," "loss of consciousness," "insensibility". These terms do not imply that the sentient organs have lost their Sensibility, but only that the disturbed mechanism has no longer its normal consensus, no longer its normal state of Consciousness. Each organ is active in its own way so long as its own mechanism is preserved; but the united action of the organs having been disturbed, their *resultant* function has been altered. Hence in a fit of Epilepsy there is a complete absence of some normal reactions, with exaggeration of others. In a state of Coma there is no spontaneity—none of the manifold adaptations of the organism to fluctuating excitations, external and internal, observable in the normal state. The organism still manifests Sensibility—but this is so unlike the manifestations when its mechanism is undisturbed (and necessarily so since the Sensibility varies with the mechanism) that it is no longer called by the same name. In the normal organism Sensibility means Feeling, or Consciousness; but in the abnormal organism there is said to be a "loss of Consciousness". What the physiologist or the physican means by the phrase "loss of Consciousness" is intelligible, and for his purpose unobjectionable. He observes many organic processes going on undisturbed—the unconscious patient breathes, secretes, moves his limbs, &c. These processes are referred to the parts of the mechanism which are not disturbed; they are obviously independent of the adjustment of the mechanism which, by its *consensus*, has the special resultant named Consciousness; he therefore concludes that these, and many other organic processes, which are neither accompanied nor followed by *discriminated* feelings, are the direct consequences of the stimulated mechanism. He never hesitates to adopt the popular language, and say, "We sometimes act unconsciously, perceive unconsciously, and even think unconsciously, all by the simple reflex of the mechanism".

Now observe the opening for error in this language. The actions

are said to go on unconsciously, and, because unconsciously, as pure reflexes, which are then assigned to an insentient mechanism, and likened to the actions of machines. But, as I hope hereafter to make evident, the reflex mechanism necessarily involves Sensibility; and therefore reflex actions may be unaccompanied by Consciousness—in one meaning of that term—without ceasing to be sentient: the feelings are operative, although not discriminated. On the other hand, there is another and very general meaning of the term Consciousness, which is the equivalent of Sentience.

In discussing Automatism, or the Reflex Theory, it is absolutely necessary that we should first settle the meaning we assign to the term Consciousness. The laxity with which the term is used may be seen in the enumeration occupying six pages of Professor Bain's account of the various meanings. Psychology is often said to be "the science of the facts of Consciousness"; and the Brain is often assigned "as the organ of Consciousness". Yet there are many mental processes, and many cerebral processes, which are declared to be unconscious. Obviously if Consciousness is the function of the Brain, there can be no cerebral activity which is unconscious; just as there can be no activity of the lungs which is not respiratory. Usage therefore points to a general and a special sense of the term. The general usage identifies it with Sensibility, in its subjective aspect as Sentience, including all psychical states, both those classed under Sensation, and those under Thought. These states are the "facts of consciousness" with which Psychology is occupied. In the special usage it is distinguished from all other psychical states by a peculiar reflected feeling of Attention, whereby we not only *have* a sensation, but also *feel* that we have it; we not only think, but are conscious that we are thinking; not only act, but are conscious of what we do. It is this which Kant indicates when he defines it "the subjective form accompanying all our conceptions (*Begriffe*)"; and Jessen when he defines it "the internal knowing of our knowing, and in itself reflected knowing".*

We shall often have to recur to this general and this special meaning, both of which are too firmly rooted for any successful attempt to displace them. The fact that some organic processes and some mental processes take place now consciously and now unconsciously, *i.e.*, now with the feeling of reflected attention,

* "Das Bewusstwerden ist nichts Anderes als ein weiter fortgeschrittenes Erinnern oder Neuwerden des von aussen aufgenommenen Wissens, ein innerliches Wissen dieses Wissens oder ein in sich reflectirtes Wissen."—JESSEN: *Versuch einer Wissenschaftlichen Begründung der Psychologie*, 1855, p. 477.

and now with no such feeling, assuredly demands a corresponding expression; nor, in spite of inevitable ambiguities, is there ground for regretting that the expression chosen should be only an extension of the expression already adopted for all other states of Sentience. A sentient or conscious state can only be a state of the sentient organism, itself the unity of many organs, each having its Sensibility. There is more or less consensus, but there is no introduction of a new agent within the organism, connecting what was physical impression into mental reaction. From first to last there has been nothing but neural processes, and combinations of such processes—which, viewed subjectively, are sentient processes. Thus the gradations of sensitive reaction are Sentience, Consentience, and Consciousness, which are represented in the Logic of Feeling and the Logic of Signs. The familiar term Conscience will then represent the Logic of Conduct. Thus understood, we may say that a man sometimes acts unconsciously, or thinks unconsciously, although his action and thought are ruled by Consentience, as he sometimes acts and thinks unconscientiously, although he is not without obedience to Conscience on other occasions. The feeling which determines an action is *operative*, although it may not be *discriminated* from simultaneous feelings. When this is the case, we say the feeling is unconscious; but this no more means that it is a purely physical process, that it takes place outside the sphere of Sentience, than the immoral conduct of a man would be said to be mechanical, and not the conduct of a moral agent. There is undoubtedly a marked distinction expressed in the terms Consciousness and Unconsciousness, but it is not that of Mental and Physical, it is that of extremes such as Light and Darkness. Just as Darkness is a positive optical sensation very different from mere privation—just as it replaces the sensation of Light, blends with it, struggles with it, and in all respects differs from the *absence* of all optical sensibility in the skin; so Unconsciousness struggles with, blends with, and replaces Consciousness in the organism, and is a positive state of the sentient organism, not to be confounded with a mere negation of Sentience; above all, not to be relegated to merely mechanical processes.

Remember that, strictly speaking, Consciousness is a psychological not a physiological term, and is only used in Physiology on the assumption that it is the subjective *equivalent* of an objective process. To avoid the equivoque of "unconscious sensation," we may substitute the term "unconscious neural process"; and as all neural processes imply Sensibility, which in the subjective aspect is Sentience, we say that Sentience has various modes and degrees—such as Perception, Ideation, Emotion, Volition, which may be conscious, sub-conscious, or unconscious.

When Leibnitz referred to the fact of "obscure ideas," and modern writers expressed this fact as "unconscious cerebration," the one phrase did not imply a process that was other than mental, the other phrase did not imply a process that was other than physiological; both indicated a mode of the process known as Consciousness under other modes. There are different neural elements grouped in Ideation and Emotion; there are different neural elements grouped in Consciousness, Sub-consciousness, and Unconsciousness; but one tissue with one property is active in all.

The nervous organism is affected as a whole by every affection of its constituent parts. Every excitation, instead of terminating with itself—as is the case in most physical processes—or with the motor impulse it excites, is propagated throughout the continuous tissue, and thus sends a *thrill* throughout the organism. The wave of excitation in passing onwards beats against variously-grouped elements—temporary and permanent centres—disturbing their balance more or less, and liberating the energy of some, increasing the tension of others, but necessarily affecting all. Those groups which have their energy liberated set up processes that are either *discriminated* as sensations, or are blended with the general stream, according to their *relative* energy in the consensus. Thus the impulse on reaching the centres for the heart, lungs, legs, and tail excites the innervation of these organs; but as these are only parts of the organism, and as all the parts enter the consensus, and Consciousness is the varying resultant of this ever-varying consensus, the thrill which any particular stimulus excites will be unconscious, sub-conscious, or conscious, in proportion to the extent of the *irradiated* disturbance, which will depend on the statical conditions of the centres at the moment. A sound sends a thrill which excites emotion, causes the heart to beat faster, the muscles to quiver, the skin-glands to pour forth their secretion; yet this same sound heard by another man, or the same man under other conditions, physical or historical, merely sends a faint thrill, just vivid enough to detach itself as a sensation from the other simultaneous excitations; and the same sound may excite a thrill which is so faint and fugitive as to pass unconsciously. Physiological and psychological inductions assure us that these are only differences of degree. The same physiological effects accompany the conscious and unconscious state. Every sensory impression, no matter whether discriminated or not, affects the circulation and develops heat. The blood-vessels of the part impressed expand, vessels elsewhere contract—a change in the blood pressure has been effected, which of course implies that the whole organism has been

affected. Delicate instruments prove that at the time a sensation is produced the temperature of the brain is raised. The same is true of ideation. Mosso has invented a method of registering the effect of thought on the circulation. He finds ideation accompanied by a contraction of the peripheral vessels proportionate to the degree of intellectual effort. A young man translating Greek showed greater contraction than when he was translating Latin. During sound sleep—when we are said to be unconscious—sudden noises always cause contraction of the peripheral vessels. Psychological observation assures us that the conscious and unconscious states were both consentient, and were both operative in the same degree. The absorbed thinker threads his way through crowded streets, and is sub-conscious and unconscious of the various sights, sounds, touches, and muscular movements which make up so large a portion of his sentient excitation at the time; yet he deftly avoids obstacles, hears the sound of a hurried step behind him, recognises an interesting object directly it presents itself, and can even recall in Memory many of the uninteresting objects which he passed in sub-conscious and unconscious indifference.

On all grounds, therefore, we must say that between conscious, sub-conscious, and unconscious states the difference is only of degree of complication in the neural processes, which by relative preponderance in the consensus determine a relative discrimination. We can only discriminate one thrill at a time; but the neural excitations simultaneously pressing towards a discharge are many; and the conditions which determine now this, and now the other excitation to predominate by its differential pressure, are far beyond any mechanical estimate. I mention this because the advocates of the Reflex Theory maintain that the neural processes are the same whether a sensation be produced or not; and that since the same actions follow the external stimulation whether sensation be produced or not, this proves the actions to be purely mechanical. I reply, the neural processes are *not* the same throughout in the two cases—otherwise the effects would be the same. You might as well say, "Since the explosion of the gun is the same, whether shotted or not, a blank cartridge will kill"; but if you tell me that your gun killed the bird, I declare that the cartridge was *not* a blank one. Whether the explosion of the gun *also* produced terror in one bystander, curiosity in a second, and attracted no notice from a third, will be altogether another matter. In like manner the sensory impression which determines a movement may or may not be accompanied or followed by *other* sentient states; the fact of such movement is evidence of its sentient antecedent; and an external stimulus that will produce *this* neural process,

and this consequent movement, must produce a feeling, although not necessarily a discriminated sensation. Now since, for discrimination, *other* neural processes must co-operate, we cannot say that in the two cases the neural processes have been the same throughout; nor because of this difference can we say that the process of the undiscriminated sensation is a mechanical, not a sentient process.

The need of recognising Consciousness and Consentience as degrees of energy and complexity in sentient states is apparent when we consider animal phenomena. Has a bee consciousness? Has a snail volition? or are they both insentient mechanisms? All inductions warrant the assertion that a bee has thrills propagated throughout its organism by the agency of its nerves; and that some of these thrills are of the kind called sensations —even discriminated sensations. Nevertheless we may reasonably doubt whether the bee has sentient states resembling otherwise than remotely the sensations, emotions, and thoughts which constitute human Consciousness, either in the general or the special sense of that term. The bee feels and reacts on feelings; but its feelings cannot closely resemble our own, because the conditions in the two cases are different. The bee may even be said to think (in so far as Thought means logical combination of feelings), for it appears to form Judgments in the sphere of the Logic of Feeling—*τὸ νοητικόν;* although incapable of the Logic of Signs—*τὸ διανοητικόν.* We should therefore say the bee has Consentience, but not Consciousness—unless we accept Consciousness in its *general* signification as the equivalent of Sentience. The organism of the bee differs from that of a man, as a mud hut from a marble palace. But since underlying these differences there are fundamental resemblances, the functions of the two will be fundamentally alike. Both have the function of Sentience; as mud hut and palace have both the office of sheltering.

The question of Volition needs a separate discussion. Restricting ourselves here to that of Consciousness, and recalling the distinction of the two meanings of the term, we now approach the question of Unconsciousness. Are we to understand this term as designating a purely physical state in contrast to the purely mental state of Consciousness; or only as designating a difference of degree? This is like asking whether Light and Darkness are both optical feelings, or one an optical feeling and the other a physical process? On the Reflex Theory, no sooner does a vital and mental process pass from the daylight of Consciousness, or twilight of Sub-consciousness, into the darkness of Unconsciousness, than the whole order of phenomena is abruptly changed, they cease to be vital, mental,

and lapse into physical, mechanical processes. The grounds of this conclusion are, first, the unpsychological assumption that the unconscious state is out of the sphere of Sentience; and secondly, the unphysiological assumption that the Brain is the only portion of the nervous system which has the property of Sensibility. Restate the conclusion in different terms and its fallacy emerges: "organic processes suddenly cease to be organic, and become purely physical by a slight change in their *relative* position in the consensus; the organic process which was a conscious sensation a moment ago, when its energy was not balanced by some other process, suddenly falls from its place in the group of organic phenomena—sentient phenomena—to sink into the group of inorganic phenomena now that its energy is balanced". Consider the parallel case of Motion and Rest in the objective sphere. They are two functions of the co-operant forces, one dynamic, the other static; although markedly distinguishable as functions, we know that they are simply the co-operant forces now unbalanced and now balanced; what we call Rest is also a product of moving forces, each of which is operant, and will issue in a definite resultant when its counter-force is removed. Motion and Rest are correlatives, and both belong to the sphere of Kinetics. In like manner Consciousness and Unconsciousness are correlatives, both belonging to the sphere of Sentience.* Every one of the unconscious processes is operant, changes the general state of the organism, and is capable of at once issuing in a discriminated sensation when the force which balances it is disturbed. I was unconscious of the scratch of my pen in writing the last sentence, but I am distinctly conscious of every scratch in writing this one. Then, as now, the scratching sound sent a faint thrill through my organism, but its relative intensity was too faint for discrimination; now that I have redistributed the co-operant forces, by what is called an act of Attention, I hear distinctly every sound the pen produces.

The inclusion of Sub-consciousness within the sentient sphere is obvious; the inclusion of Unconsciousness within that sphere may be made so, when we consider its modes of production, and compare it with the extra-sensible conception of molecules and atoms. The Matter which is sensible as masses, may be divided into molecules, which lie beyond the discrimination of sense; and these again into atoms, which are purely ideal conceptions; but because molecules are *proved*, and atoms are *supposed*, to

* In common language a stone or a tree is said to be unconscious; but this is an anthropomorphic extension of the term. In strictness we should no more speak of unconsciousness outside the sphere of Sentience than of darkness outside the sphere of Vision.

have material properties, and to conform to sensible canons of the objective world, we never hesitate to class them under the head of Matter; nor do we imagine that in passing beyond the discrimination of Sense they pass into the subjective region. They are still physical, not mental facts. So with Sentience. We may trace it through infinite gradations from Consciousness to Sub-consciousness, till it fades away in Unconsciousness; but from first to last the processes have been those of a sentient organism; and by this are broadly distingushed from all processes in anorganisms. The movement of a limb has quite different modes of production from the movement of a wheel; and among its modes must be included those of Sensibility, a peculiarly vital property. Oxidation may be slow or rapid, manifesting itself as combustion, heat, or flame, but it is always oxidation—always a special chemical phenomenon. And so the neural process of Sentience, whether conscious, sub-conscious, or unconscious, is always a state of the sentient organism. If a material process does not change its character, and become spiritual, on passing beyond the range of sensible appreciation, why should a psychical process become material on passing beyond the range of discrimination? If we admit molecules as physical units, sentient tremors are psychical units. The extra-sensible molecules have indeed their subjective aspect, and only enter perception through the "greeting of the spirit". The sentient tremors have also their objective aspect, and cannot come into existence without the neural tremors, which are their physical conditions.

It is only by holding fast to such a conception that we can escape the many difficulties and contradictions presented by unconscious phenomena, and explain many physiological and psychological processes. Descartes—followed by many philosophers—identified Consciousness with Thought. To this day we constantly hear that to have a sensation, and to be conscious of it, is one and the same state; which is only admissible on the understanding that Consciousness means Sentience, and Sentience the activity of the nervous system viewed subjectively. Leibnitz pointed out that we have many psychical states which are unconscious states—to have an idea and be conscious of it, are, he said, not one but two states. The Consciousness by Descartes created into an essential condition of Thought, was by Leibnitz reduced to an accompaniment which not only may be absent, but in the vast majority of cases is absent. The teaching of most modern psychologists is that Consciousness forms but a small item in the total of psychical processes. Unconscious sensations, ideas, and judgments are made to play a great part in their explanations. It is very certain that in

every conscious volition—every act that is so characterised—the larger part of it is quite unconscious. It is equally certain that in every perception there are unconscious processes of reproduction and inference—there is much that is *implicit*, some of which cannot be made explicit—a "middle distance" of sub-consciousness, and a "background" of unconsciousness. But, throughout, the processes are those of Sentience.

Unconsciousness is by some writers called *latent* Consciousness. Experiences which are no longer manifested are said to be stored up in Memory, remaining in the Soul's picture-gallery, visible directly the shutters are opened. We are not conscious of these feelings, yet they exist as latent feelings, and become salient through association. As a metaphorical expression of the familiar facts of Memory this may pass, but it has been converted from a metaphor into an hypothesis, and we are supposed to *have* feelings and ideas, when in fact we have nothing more than a modified *disposition* of the organism—temporary or permanent—which when stimulated will respond in this modified manner. The modification of the organism when permanent becomes hereditary; and its response is then called an instinctive or automatic action. And as actions pass by degrees from conscious and voluntary into sub-conscious and sub-voluntary, and finally into unconscious and involuntary, we call them volitional, secondarily automatic, and automatic. If any one likes to say the last are due to latent consciousness, I shall not object. I only point to the fact that the differences here specified are simply differences of degree—all the actions are those of the sentient organism.

Picture to yourself this sentient organism incessantly stimulated from without and from within, and adjusting itself in response to such stimulations. In the blending of stimulations, modifying and arresting each other, there is a fluctuating "composition of forces," with ever-varying resultants. Besides the stream of direct stimulations, there is a wider stream of indirect or reproduced stimulations. Together with the present sensation there is always a more or less complex group of revived sensations, the one group of neural tremors being organically stimulated by the other. An isolated excitation is impossible in a continuous nervous tissue; an isolated feeling is impossible in the consensus or unity of the sentient organism. The term Soul is the personification of this complex of present and revived feelings, and is the substratum of Consciousness (in its general sense), all the particular feelings being its *states*. To repeat an illustration used in my first volume, we may compare Consciousness to a mass of stationary waves. If the surface of a lake be set in motion each wave diffuses itself over

the whole surface, and finally reaches the shores, whence it is reflected back towards the centre of the lake. This reflected wave is met by the fresh incoming waves, there is a blending of the waves, and their product is a pattern on the surface. This pattern of stationary waves is a fluctuating pattern, because of the incessant arrival of fresh waves, incoming and reflected. Whenever a fresh stream enters the lake (*i.e.*, a new sensation is excited from without), its waves will at first pass over the pattern, neither disturbing it nor being disturbed by it; but after reaching the shore the waves will be reflected back towards the centre, and there will more or less modify the pattern.

GEORGE HENRY LEWES.

III.—THE 'SUPPRESSION' OF EGOISM.*

As Mr. Sidgwick's book on *The Methods of Ethics* seems thought to have cast some discredit on the system which he calls 'Egoistic Hedonism,' and which indeed he himself distinctly claims to have 'suppressed,' I propose in this paper to consider his treatment and non-treatment of that system.

Of the principle that the Ethical end of Action is Pleasure of the Actor, there are three distinct and independent proofs, which I may call respectively the Physical, the Introspective, and the Intuitional. My aim will be to show that of these Mr. Sidgwick has omitted the first, has not disproved the second, and has established the third. If any one of these propositions be accurate, then, since one proof is sufficient to prove, and truth is not made doubtful by the possibility of reaching it falsely, Egoism will be untouched by Mr. Sidgwick's attack. Instead of the 'suppressor' of Egoism, I hope to show him its unwilling prophet. Let me remark at the outset that it is the Science, not the Art, of Morality that I am concerned with; the truth of principles, not the method of using them. If a man can establish a thing to be true, he need not care for its practical application: that will take care of itself.

* Notwithstanding that so much space has already been given in MIND to the criticism of Mr. Sidgwick's work, I do not hesitate to print the following article, written as it is from a fresh point of view. The interest that continues to be excited by *The Methods of Ethics*, shown also in the recent appearance of Mr. F. H. Bradley's pamphlet *(Mr. Sidgwick's Hedonism*, King & Co.), is a notable fact in English philosophy at the present day, and there should remain due record of it in the pages of this Journal. EDITOR.

I. The title of Mr. Sidgwick's book should have been *The Introspective Method of Ethics.* For starting with the assumption of a Moral Faculty, into the origin of which it refuses to enquire, the whole book is an elaborate analysis of the dicta of this 'Faculty'. There is therefore but a single method examined, the Introspective; and the various so called 'methods' are distinguished by the different axioms or principles which Reason dictates, and not by the method of arriving at them which is throughout the same, *viz.*, self-interrogation. They are in fact not different 'Methods of Ethics' but different results of the same method.

Of course an author is perfectly justified in confining himself to any branch of a subject which he may select, and so impartial and thorough an investigation of any single method as that which Mr. Sidgwick has given to the Intuitive method of Ethics cannot fail to be of great value, if the only result were to bring into clear relief the divergent results to which such method leads and its consequent uselessness for scientific purposes. But it is hardly fair to take arbitrarily a single method, and treat it as the only one possible, or even as the only one worthy of a particular name. A man who wrote a treatise on 'The Methods of Acoustics' and confined himself to an examination of the various opinions as to the nature of sound held by persons with 'a good ear,' and refused all enquiry into its physical properties, and all aid from any sense except that of hearing only, as foreign to his subject and of no practical import, might compose a very instructive and valuable work, but would hardly be thought to have exhausted the possibilities of a Science of Sound. Yet he would be clearly more justified by at least the etymological meaning of words in saying that Acoustics has to do with the sense of hearing only, than Mr. Sidgwick has in saying that Ethics has to do only with the Moral Faculty. Mr. Sidgwick says (p. vi.) that "the investigation of the historical antecedents of this cognition, and of its relation to other elements of the mind, no more properly belongs to Ethics than the corresponding questions as to the cognition of Space belong to Geometry". But in the first place, Geometry does not assume a Spatial Faculty and proceed simply to interrogate that and chronicle the results; it measures one sense against another and so arrives at what we call 'objective' or what is in fact *consistent* truth. And secondly, if Geometry assumes the fundamental properties of space as axioms or postulates, that is because there is no dispute about them; they are indisputably or at least undisputedly valid, and that is sufficient. But in Ethics it is as to the axioms that the great dispute arises, their application being scientifically of minor importance. And to

say that the latter only is the proper province of Ethics, is clearly opposed to the ordinary use of the word, and as clearly opposed to Mr. Sidgwick's understanding of it, seeing that he defines it as "the study of what ought to be done" (p. 4) and that his whole book is a consideration of the relative value of first principles and not only of their application to practice. But Mr. Sidgwick may say: 'I do not object to your discussing principles as much as you like, so long as you keep to the Moral Faculty, but if you go behind that you get out of Ethics'. To this I answer: In the first place, I doubt the validity of your Moral Faculty, and in order to determine that I must compare it with my other faculties. No doubt, as you say (p. 4) "if we were only agreed as to what we ought to do, the question 'How we come to know it' would be one of quite subordinate interest"; but we are not agreed, and the question therefore becomes vital. But in the second place, suppose this moral faculty to be valid, why should Ethics be confined to it alone, any more than Acoustics is confined to the faculty of hearing? There can be no science which is confined to one sense, because there can thus be no objectivity. From hearing alone how can we know that sound means the same, that is, stands in the same relation, to all men? Similarly from the moral faculty *alone* how can you distinguish "between what men think to be their duty and what really is such"? If the moral faculty be ultimate, what *is* a man's duty is what the moral faculty says, *i.e.*, to each man is what *he thinks* his duty. So we get to the old sophistic doctrine of individualism, which is plainly exclusive not only of a science of Ethics but of all ethical reasoning. If on the contrary it be assumed as it is by Mr. Sidgwick (p. 6), that there is an objective good, and that this can be known, interrogation of the moral faculty can clearly not yield it, and therefore the insufficiency of the Introspective Method is assumed in all moral reasoning. To say that men know 'objective' good, but can give no reason for it or explanation of it, is really to say that good *is* in the knowledge of it, or in other words is subjective only.

I may here make a remark, the importance of which will be seen hereafter, that there may be an objective good which is still relative to the individual, if it bear the same relation to all individuals: for instance, it may be Pleasure, which though relative to the organism is in a universal relation, and therefore satisfies the conditions of Science. Mr. Sidgwick is not accurate here. He says (p. 6): "If it be maintained that two men may act in two different ways under circumstances precisely similar, and yet neither be wrong because each thinks himself right: then the common notion of morality must be rejected as a

chimera. That there is in any given circumstances some one thing which ought to be done and that this can be known, is a fundamental assumption." Now if under 'circumstances' he includes *internal* circumstances such as character and belief, his hypothesis is self-contradictory, because different beliefs as to what is right are different circumstances: if not, the conclusion is false; for common morality says that a man ought to act not only according to his beliefs but according to the whole of his nature, and that what is right for one man may be wrong for another. The only fundamental assumption either necessary for a Science of Ethics or warranted by common notions is that morality conforms to the general law of uniformity, *i.e.*, that in the same circumstances, external and internal, the same thing is morally good: "*ὁμοίων γὰρ ὄντων καὶ πρὸς ἄλληλα τὸν αὐτὸν τρόπον ἐχόντων τοῦ τε ποιητικοῦ καὶ τοῦ παθητικοῦ, ταὐτὸ πέφυκε γίνεσθαι*". If this be so, then in any given circumstances "there is some one thing which ought to be done"; one, not in the sense that it is the same for each man, but that it has the same *relation* to each man, and therefore is capable of being known in the case of each man by all men.

But there is another reason why Mr. Sidgwick objects to going outside the moral faculty and explaining its derivation, namely, that "this would require us to prefer the coarsest and lowest of our pleasures to those that are more elevated and refined: which no one would maintain to be reasonable" (p. 42). And again (p. 186) "Why should our earliest beliefs and perceptions be more trustworthy than our latest, supposing the two to differ? The truths of the higher mathematics are among our most secure intellectual possessions, yet the power of apprehending these is rarely developed until the mind has reached maturity." Now, inasmuch as Mr. Sidgwick has defined 'Reason' as the faculty which prescribes moral rules, it is a clear fallacy to argue in favour of these rules that they are more 'reasonable' than others. But apart from this, Mr. Sidgwick should not forget that a thing may be *φύσει πρότερον*, but *ὕστερον ἡμῖν*. He would surely not argue against the Cosmogony of Laplace, that it is 'unreasonable' and retrogressive, because it goes back to the 'mean and beggarly elements' of nature. Surely this is the very law and order of knowledge, to return on nature's tracks, so that the farther back it can get the more perfect it is; and the truths of Mathematics are secure for this very reason that they go back the farthest of all. This is just what we wish to do with the Moral Faculty, to carry it farther back into its elements and thus rest it on a secure foundation. No one says that it is 'unreal' or 'vanishes' because it is found to be compound; on the contrary its exist-

ence is more real because more known. No one wishes to substitute the elemental pleasures for the compound, the earliest beliefs for the latest, but to know or render self-conscious the evolution of one from the other, and thus to understand our present nature. A belief cannot be more valid than its data, and therefore if we discover the origin of our present beliefs we shall have at any rate a maximum measure of their validity.

In an article in MIND No. I., Mr. Sidgwick seems to have intended to collect more systematically than he has done in his book his reasons for excluding the history of the Moral Faculty from the province of Ethics. He there repeats the arguments which I have already noticed, with others which I may briefly summarise as follows. 'True it is that Evolution is progress, and that Morality aims at progress; but how do you know that the two kinds of progress are identical? How do you connect 'is' with 'ought to be,' 'being' with 'well-being'?' To answer this thoroughly would be to expound the Physical System of Ethics, which I have tried to do elsewhere, but which it is not now my business to attempt: suffice it for the present purpose to give the answer which Mr. Sidgwick himself suggests that the connecting link is 'happiness' or 'pleasure'. 'But if this be so' says Mr. Sidgwick, 'it is easier to aim at this directly than through development. No two even of your experts are agreed as to where the latter is going, so that it is a very useless mark to aim at.' To this I answer: At any rate it takes nothing away; you have the old mark of pleasure left, and you are no worse off than before; besides, if it is true, I do not care to ask whether it is useful or not. But I answer chiefly that development is not the mark which the scientific system of Ethics sets up. In showing you the development of the organised search for pleasure it does not bid you aim at *development* as such, but shows you *why* you ought to aim at *pleasure*, by proving that you do so aim and that 'ought to' is compounded out of 'is'. 'But if you mean,' says Mr. Sidgwick, 'that evolution reconciles the Instinctive and Utilitarian Morality, it can only do so on a broad general ground, and inasmuch as their mutual agreement in the main is self-evident, to show the reason of it is ethically superfluous whatever historical interest it may have.' To this I answer as before that nothing is scientifically 'superfluous' that is true; and that the whole interest of physical science is in this sense 'historical,' for its aim is a conscious retracing of the unconscious evolution of the universe. But to give a less general answer: Would Mr. Sidgwick say that the nebular hypothesis, supposing it to be true, is 'astronomically superfluous,' or that the laws of the formation of clouds have only an 'historical interest' to Meteorology? Or, to take

another instance, would a knowledge of the creation of mankind by God have no bearing on its relations to him when once created? And has legal history no jural value?

In another paper in MIND No. V., Mr. Sidgwick appears as the champion of Hedonism against a supposed assault from the side of Physical Science, but his arguments go only to establish against a mere external standard the necessity of a Hedonistic criterion, and do not at all effect my position that Science *proves* Hedonism, but proves it in the Egoistic form.

Finally, I would remark that, supposing Mr. Sidgwick's objections well founded, as I contend they are not, they furnish no answer to the proposition which I am here concerned to establish, *viz.*, that the Physical or Scientific proof of Egoistic Hedonism is nowhere examined, much less disproved, by Mr. Sidgwick: for they are all not arguments against it but reasons for its non-examination. This fact is not only a sufficient provisional defence of Egoism, but marks a defect in the plan of Mr. Sidgwick's book, if while professing to examine scientific methods of Ethics he really excludes the only method which is scientific at all. To talk of a 'science' which "lies outside of all investigation of the actual" (p. 2) may be called a mere 'verbal' error, but only in the sense that all misstatements, being made in words, are verbal mistakes. The object of true or what Mr. Sidgwick calls "speculative" science is by comparing the data of different senses and so correcting their deficiencies to arrive at 'objective' truth; and just as Physical Optics or Acoustics takes light or sound and resolves them into the simpler elements of vibration, so Physical Ethics resolves Good into its constituent elements. It explains the Moral Faculty and its judgments of 'right' and 'good' as the physical result of Evolution, which objectively is perfection, subjectively is pleasure-attaining, and self-consciously is pleasure-seeking; and thus it connects the sphere of morality with the physical universe, gives a new meaning to the ethical dogma 'Follow nature,'* and constitutes a true Science of Ethics. Of this

* At p. 356, Mr. Sidgwick says that this maxim involves a vicious circle. How so? Even to the Stoics it meant 'Consciously imitate the unconscious striving of nature'; to us it means 'Be a self-conscious agent in the evolution of the universe'. In another place (p. 63) he seems to think that 'Follow nature' means 'Go in the *opposite* direction to nature,' '*Un*develope yourself'. Conformity to nature means conformity to its dynamical laws of Evolution, and to its statical laws of Physics. The former involves action, the latter knowledge; there is no real ambiguity in either precept. I may notice that the Physical System of Ethics reconciles Stoicism and Epicureanism by showing them to be the inner and outer expressions of the same law; the Stoic giving the Physical element, the Epicurean the Ethical.

'Method of Ethics' Mr. Sidgwick gives no account: he hardly even says of it that it does not exist.

II. I said that Mr. Sidgwick's book should be called 'The Introspective Method of Ethics': I had almost said 'Intuitional'. For it is not even to the whole facts of our inner consciousness but to the single consciousness of Duty that his method is chiefly directed; not to what actually are our motives, but to what we think they ought to be. The larger Introspective Method he does indeed hint at in a single short chapter (Book I., ch. iv.) but only to put it aside; and the remainder of the book is devoted to 'Reason'. His position in that chapter I take to be this: Admitting that if pleasure could be proved to be the universal motive this would be binding on Reason, necessity being evidently comprehensive of duty, he argues that such proof is imperfect, and the mere generality of motive which it establishes is not sufficient to displace or subordinate the motive which he assumes, *viz.*, the "desire to do what Reason dictates". To arrive at this position he has to refute what I have called the Introspective proof of Hedonism, *viz.*, that self-examination shows us that pleasures and pains are as a matter of fact the only motives to voluntary action, and act in proportion to their intensity. Let us examine his arguments. The first (p. 31) is as follows: "It is a matter of common experience that the resultant or prevailing desire in men is often directed towards what (even in the moment of yielding to the desire) they think likely to cause them more pain than pleasure on the whole. 'Video meliora proboque, Deteriora sequor.'" In other words Action does not always follow Knowledge. Of course not; but the doctrine does not require that it should, for it says, not that we follow what *is* our greatest possible pleasure or what we know or 'think' to be so, but what at the moment of action is most desired. In fact the only practical measure of pleasures as motives at any moment, is in ourselves the resultant desire, in others the resultant action. But it may be objected that to say that 'the pleasure which under any given circumstance is the greatest moves,' and when asked for a measure to say 'the pleasure which moves is under those circumstances the greatest',—is to argue in a circle. It is no more a circle than to measure weights by their effect on the scales, or temperatures by the position of the mercury in a thermometer. The argument is at bottom this: I know pleasure to be a motive, and I know no other; I reasonably assume (having no evidence to the contrary) that motives follow laws analogous to those of other forces, or, in other words, the law of causation (this is what Mr. Sidgwick really asserts under the 'objectivity' of good): therefore, just as, when two forces acting on a body in

opposite directions result in movement in one of these directions, we say that *under those conditions* the conquering force was the greatest, so, when desire or action follows one motive rather than its opposite, we define the motive force of the first *under those conditions* to be greater than that of the latter. In each of these cases the absolute relation (if I may use such an expression) between the forces or motives may be very different from their relation under the given conditions: for in order to measure their absolute values the special conditions must be eliminated. The 'condition' which is most important is that of position: in the case of mechanical forces, position in space; in the case of motives, position in time.* When I raise my hand, I know that my muscular force is not absolutely greater than the earth's attraction but only in that relative position. Similarly when I act to secure a 'nearer good,' I may know quite well that it is 'less valuable' according to an absolute standard. For the idea of a distant pleasure is far weaker than that of an immediate one, but in theory this 'discount' is not considered, for theory ideally simplifies by eliminating the element of time altogether, just as Algebra eliminates space from Geometry. What is best in theory is what would have been best in the end, but what moves is the resultant of the projections of pleasures on the plane of the present. Action looks at life as we look at a landscape, knowledge maps it out to scale as on a chart. This divergence is gradually remedied by habitually acting on principle, and so making allowance for distance *automatically*, as we do in the eye: but this takes time, "δεῖ γὰρ συμφῦναι, τούτῳ δε χρόνου δεῖ," and in human beings is at present very imperfect. To suppose that action could exactly follow theoretic knowledge is to suppose a being in whom ideas should be equally vivid however distant the anticipations, in other words, should be equivalent to sensations; to whom therefore there should be no distinction of present and future, fact and knowledge, object and subject. But this is clearly not the case with man, so that to him knowledge which compares between ideas only, and ideas at equal distances, is necessarily at variance with action, which has to do with both ideas and sensations, and where perspective is everything.

But it may be answered that it is possible to act not only against *theoretical* knowledge, which is what Mr. Sidgwick seems to mean (*cf.* note to p. 112) but against *practical* knowledge, *i.e.*,

* We may perhaps conjecture that, as Time is extension in one dimension only, the law of motive force corresponding to the law of gravitation in space will be found to involve a function of the simple inverse of the distance in time of the origin of the force instead of the inverse square: probably also a constant determined in the case of each individual by a 'personal equation'.

not only against experience that certain actions *bring the most pleasure*, but even against experience that they are the *most pleasant at the time*. This is explained by another 'condition' of action which I have incidentally mentioned above, but which has a wider operation than what I may call 'the Temporal law of Motive,' *viz.*, imperfection of machinery. If a man acted up to his knowledge, whatever that might be, he would be *quà practice*, *i.e.*, as a practical machine, perfect. But as a matter of fact not only is knowledge expressed imperfectly, but not unfrequently some knowledge does not emerge in action at all, forms no constituent of the resulting act. A new line of communication cannot enter into competition with one well used, for the tissues acquire 'habits' which take long to modify. In other words, habit controls the practical effect of knowledge. A man may either choose the wrong rule, the lower instead of the higher, or (what comes to the same thing) he may not perceive that the particular circumstance comes under its proper rule; or, as Aristotle says, the practical syllogism, which is the expression of knowledge in action, may be vitiated either by choosing the wrong major premiss or by the imperfect apprehension of the minor. In such cases therefore the *effective* knowledge is what Plato calls in the *Protagoras* "a kind of ignorance," *i.e.*, as compared with the higher knowledge which the man in a way has and has not: it is a less complete calculation of pleasure, a lower organisation of motive. But the difference is only in the completeness of the calculation, the nature of it is the same; and the fact of such difference means only that the machine is not perfect.

These considerations seem to me to dispose of Mr. Sidgwick's objection that action does not follow knowledge, whether by knowledge be meant ideal comparison of pleasures or belief as to the actual pleasantness of particular actions; and to show that, though desire may not be directed to the greatest pleasure within our reach or even to what we 'think' such, this does not involve (as Mr. Sidgwick thinks it does) the abandonment of the strict proportionality between pleasure and desire, any more than the fact that two equal weights at opposite ends of a stiffly working lever with unequal arms do not balance one another, disproves the strict proportionality between weight and active force. But the Introspective proof as I have stated it, involves the fact that we have no other motive than pleasure. Mr. Mill thinks this is so obvious as to be beyond dispute, but Mr. Sidgwick argues that this is due to a confusion between pleasure as "signifying the mere fact of preference" and pleasure as an "agreeable sensation"—the former being identical with motive and the latter being the ἡδονὴ of Hedonism. Now it is curious

that, when Mr. Sidgwick comes later on (p. 114) to discuss Hedonism and give "a more precise notion of pleasure," he says that "it seems obvious to define it as the kind of feeling which pleases us, which we like or prefer," and eventually concludes that "we must define pleasure, if we are to estimate it exactly, not as the kind of feeling which we actually seek and pursue, but as that which we judge to be preferable".* Therefore the distinction which he makes seems to be between what is actually preferred and what is judged to be preferable, and the argument is that the two do not agree, which resolves itself into that already considered, that practice is often at variance with knowledge. Apart from this argument, it is Mr. Sidgwick's own definition of the 'pleasure' of Hedonism that it is "the kind of feeling which we prefer," or, even more definitely, "which prompts us to actions tending to produce or sustain it": so that, even if our refutation of this argument is invalid, the only change which he would make in the 'tautological assertion' is that instead of 'we desire a thing in proportion as it appears pleasant,' he would say 'we *ought* to desire a thing in proportion as we know it to be pleasant': he only prefers the Intuitive proof to the Introspective.

Mr. Sidgwick's remaining arguments are all intended to show that our active impulses are not always "consciously directed towards the attainment of agreeable sensations as their end". As this is not the doctrine of Physical Hedonism I shall pass over these arguments shortly. Nobody denies that there are 'extra-regarding impulses' in this sense that desire of an end may become desire of means, so that it may seem to aim at means for their own sake. This is the case with appetites, as when a man takes a walk to 'get an appetite,' or pursuits such as fox-hunting; and it may often be true that a man is most likely to attain the end if he aim only at the means and forget the end. The extent to which this losing of end in means may be carried is illustrated in Benevolence, which "even though it may owe its origin to a purely egoistic impulse, is still essentially a desire to do good to others for their sake, and not for our own": in other words, I may find pleasure in doing good to others for their sake, and not for my own. We might go even further and say: I may cut my finger because it gives me pleasure to give myself pain. All this is part of Hedonism, which asserts that original impulses were all directed towards pleasure, and that any impulses otherwise directed are derived from these by 'association of ideas'. But Mr. Sidgwick says (p. 41) that observation is against this, "as preponderant

* *Cf.* p. 372, where he defines pleasure as "Preferable or Desirable Feeling of whatever kind".

objectivity seems characteristic of the earlier stages of our consciousness, and the subjective attitude does not become habitual till later in life". I answer that the earliest stage of our consciousness is before the separation of object and subject, and that the earliest motive and that which Hedonism asserts to be fundamental is 'a pleasure,' not either a 'pleasant object' or a 'pleased subject'. The first object of desire, a pleasant state, becomes afterwards thought of as a union of subject and object, and the desire may be transferred to either factor by association. When we reflect, we say, '*I* desire an *apple*': but the desire is for the union of object and subject, that the apple should become I. Hedonism would be true though the ideas of object and subject did not exist, and though no one had ever formed the idea of 'self' at all.

Mr. Sidgwick concludes with the argument that at any rate "all men do not *now* desire pleasure, but rather other things". I answer: That is exactly what you have to prove, and what is *not* proved by showing that means may be substituted for ends. For this does not make men desire "other things" than pleasure, but only makes them desire one pleasure instead of another, or (as it may be put otherwise) call an old pleasure by a new name.

In a subsequent chapter (at p. 115) Mr. Sidgwick asks the following question: How is non-hedonistic preference (which is commonly thought to be of frequent occurrence) possible, unless there is something preferable (*i.e.*, which *can* be preferred) besides pleasure, and if there is some such thing, what is it? The answer comes to this, that it must lie in the circumstances under which the state of consciousness arises, or the objective relations of the sentient individual. "For," he says, "if we separate in thought any state of consciousness from all its objective circumstances and conditions (and also from all its effects on the consciousness of the same individual or of others) and contemplate it merely as the transient feeling of a single subject; it seems impossible to find in it any other preferable quality than that which we call its pleasantness, as to which the judgment of the sentient individual must be taken as finally valid." This seems to me practically to yield the point at issue, if we remember that to the sentient individual the objective circumstances and conditions and also the effects of one of his conscious states are only modifications of that or some other of his conscious states, so that to him the only thing which is preferable, *i.e.*, which he can prefer, is a pleasant state, or that which produces a pleasant state. Consequences come in (and this is the explanation of preferring a 'higher' or more 'refined' to an immediately greater pleasure); but to each individual it is the consequences

to himself alone and in judging of them pleasure is the only ground of preference. That this is true Mr. Sidgwick seems really to admit: for he says (p. 371): "If I have any intuition at all respecting the ultimate ends of action, it seems to me that I can see this: that these objective relations of the conscious subject, when distinguished in reflective analysis from the consciousness accompanying and resulting from them, are not ultimately and intrinsically desirable: any more than material or other objects are, when considered out of relation to conscious existence altogether". If then nothing but conscious states of the conscious subject is 'ultimately desirable,' and the only 'preferable quality' in these is "that which we call pleasantness, as to which the judgment of the individual must be taken to be finally valid," this is *at least* Intuitive Egoism. I say *at least* because I am not sure whether Mr. Sidgwick here means by 'desirable' what he must have meant in the former passage, 'capable of being desired', or rather, 'which ought to be desired'. If he means the latter, I go on to say that conscious states alone are rationally desirable for this reason, that nothing else is or can be actually desired, seeing that a thing is *to us* its relations to us, or in other words, the states of consciousness which 'it produces' in us; so that any existence it may have in itself is at least indifferent to us, and incapable of exciting desire or preference. If this be true, the Introspective proof of Egoistic Hedonism is complete.

III. Having omitted the Physical and negatived the Introspective method, Mr. Sidgwick proceeds at once to the Intuitive. "To ascertain what Reason dictates" is, he says, "the aim of all ethical discussion." Of course it dictates all kinds of things; but on the whole Mr. Sidgwick gathers that Rational ends (for it is ends, not methods, which he uses as divisions) "are limited in number" and "seem to be" Perfection and Happiness, either individual or universal, and Rightness or Goodness for its own sake. These ends or methods he proceeds to consider *seriatim*. First he deals with Egoistic Hedonism. As to its fundamental principle he says that there seems to be more general agreement among reflective persons as to its reasonableness than for any other, such reasonableness being admitted by Utilitarian and Intuitionist alike: and that "the *onus probandi* lies with those who maintain that disinterested conduct as such is reasonable" (p. 108). Then follows an examination of its different methods of application, or of what Plato calls the μετρητικὴ τέχνη, such as the empirical comparison of pleasures, common sense judgments, notions of duty, divine law, natural impulses, self-development. All of these are found to lead back to the first, and that seems unworkable. These objections as to impracti-

cability do not seem, however, to be thought much of by Mr. Sidgwick, as he eventually adopts a system to which they apply with far greater force. At any rate they do not touch the *truth* of the principle, with which we are here concerned; nor, so far as I can see, its 'reasonableness' in the sense in which Mr. Sidgwick uses the word Reason, *viz.*, as "the faculty of apprehending universal truth". Egoism is made to seem unreasonable only by a confusion with the other sense of 'reason,' as *reasoning*, which seeks means to an end. For of course in that sense Egoism would be unreasonable if there were no means to it. But Mr. Sidgwick's Reason seems so called on this very account, because it makes affirmations for which no reason can be given. The result is that Reason says that Egoism is *primâ facie* proved. If Mr. Sidgwick, notwithstanding, feels "aversion" to it, and regards it as "ignoble" and "despicable," he should remember that there is at least nothing noble in an unreasoning aversion.

Next we proceed to Intuitionism, which takes three forms, according as it is held to give particular judgments, general axioms, or a philosophic basis. The last, though nominally a sub-class, seems to include all 'methods of Ethics' recognised by Mr. Sidgwick not included in the two former: so that when the two former are disposed of as not capable of supplying measures sufficiently precise to be elevated into scientific axioms, the chapter on 'Philosophical Intuitionism' is really an enquiry whether our Moral Faculty can supply any ethical axioms (besides that of Egoism) which have at once scientific precision and positive content. Mr. Sidgwick believes that it can supply two such, and that one of these involves "the suppression of Egoism". He takes them from Clarke, and calls them respectively the Rule of Equity and the Rule of Benevolence.

The first is as follows: "Whatever I judge reasonable or unreasonable that another should do for me, that by the same judgment I declare reasonable or unreasonable that I should *in the like case* do for him" (p. 358). This is the principle of the "objectivity" (as Mr. Sidgwick calls it) of rightness. I have already tried to show that it is either an assertion that morality follows the physical law of uniformity (*i.e.*, that mere difference of individuality in moral agents, as in atoms, does not effect the result, which is precisely *similar* under all *similar* conditions) in which sense I gladly accept it as a testimony from consciousness to the possibility of a Physical science of Ethics; or if "the like case" does not include the like internal natures of agent and recipient, that it is not only no axiom but plainly repugnant

to common sense. Mr. Sidgwick, if I understand him rightly,* takes it in the latter sense, and yet holds it an axiom. Let me put to him an illustration. He says that it is a duty to seek one's own happiness (p. 304). But to determine what is a man's happiness, you have to look at his character and disposition, just as a meal fit for Milo is too large for an ordinary man. How, then, can duty be independent of the character of the agent? Or to take the converse, on what principle is it allowable (as Mr. Sidgwick says it is) to tell a lie to a lunatic?

The second rule, which as the supposed suppressor of Egoism I approach with more awe, is stated by Clarke as follows (p. 309): "If there be a natural and necessary difference between Good and Evil; and that which is Good is fit and reasonable, and that which is Evil is unreasonable, to be done: and that which is the Greatest Good is always the most fit and reasonable to be chosen: then as the Goodness of God extends itself universally over all His works throughout the whole creation, by doing always what is absolutely best in the whole: so every rational creature ought, in its sphere and station, according to its respective powers and faculties, to do all the Good it can to its fellow-creatures: to which end, universal Love and Benevolence is plainly the most certain, direct, and effectual means." The premisses here seem three: (1) It is reasonable to do the greatest good; (2) There is a God, and His goodness is the greatest; (3) The goodness of God can be known apart from ours, and comprises Benevolence to all His works. The second and third would hardly now-a-days be accepted as self-evident truths. Even if modified as far as possible to suit modern 'common sense,' they would at least involve the very controverted hypothesis of a moral government of the universe on optimist principles. But suppose them granted—what follows? Clearly that 'every rational creature' ought to do good not 'to its fellow-creature,' but 'to all its works'; in other words, *to itself*. If God's goodness is the ideal, and consists in doing good to 'His works,' *i.e.*, to Himself, how can a man possibly imitate this ideal by doing good *to others?* Mr. Sidgwick says he thinks the reasoning of Clarke "substanti-

* In a note to p. 183 Mr. Sidgwick says that "difference of circumstances must be taken to include difference of nature and character – in short, all differences beyond the mere individuality of different individuals". If this be his theory, I rejoice; but I cannot reconcile it with what he says elsewhere, or even on that same page when he contrasts ethical judgments with judgments as to sensations of taste as being really instead of only apparently 'objective'. As I have shown, Mr. Sidgwick holds that two persons cannot differ and both be 'objectively right' (*cf.* pp. 6, 190 n., 364).

ally sound"; to me, I confess, it appears a paralogism of the grossest kind.

However, Mr. Sidgwick admits that "to exhibit it as clear and cogent, considerable modification in form is needed". This is the form he gives (p. 360): "We are supposed to judge that there is something intrinsically desirable—some result which it would be reasonable for each individual to seek for himself, if he considered himself alone. Let us call this the individual's Good or Welfare: then what Clarke urges is that the Good of any one individual cannot be *more* intrinsically desirable, *because it is his*, than the Equal Good of any other individual. So that our notion of Ultimate Good, at the realisation of which it is evidently reasonable to aim, must include the Good of *every* one on the same ground that it includes that of *any* one. This seems to be as much a self-evident truth as the principle of Equity." Perhaps so; to me also the two principles seem pretty equal in that respect. The premisses seem again three in number: (1) I reasonably desire my own good or welfare; (2) What is reasonable under any given circumstances is right under all precisely similar circumstances; and (3) "The fact that I am I" (as Mr. Sidgwick expresses it) is not a material circumstance. I admit these premisses. What then follows? Two inferences seem logically deducible. From (1) and (2) it follows that 'it is reasonable for me to desire all welfare which stands in precisely similar circumstances to my own'. One of these is that it is 'my own,' but this by (3) is unimportant. But another is that it is actually desired by me. Hence we conclude that 'it is reasonable for me to desire all welfare, which I desire equally with my own'. This is evidently not what we seek. Next let us combine (1) and (3): it follows that 'all men reasonably desire their own welfare'. For surely the result of 'universalising the maxim, 'I seek my own good,' is 'All men seek their own good,' not 'I seek all men's good'. If so, how does Mr. Sidgwick elicit the latter conclusion?

Mr. Sidgwick repeats the argument at p. 365* in the following condensed form: "The fact 'that I am I' cannot make *my* happiness intrinsically more desirable, more fit to be accepted by my reason as the standard of right and wrong in conduct, than the happiness of any other person". It is certainly not more fit to be accepted as the standard of right and wrong in *my* conduct, than the happiness of any other person *in his*. But to say that happiness is "the standard of right and wrong in

* The argument is substantially repeated in the same form in other places (*e.g.* at p. 367). But I do not find any statement of it containing any new element.

conduct" means that A's happiness is the standard of A's conduct, though of course the fact that A is A does not matter in the sense that B would not be an equally good example: and in the alternative expression of the premiss, which considers desire or desirability, its distributive nature is still more apparent.

This seems to me so evident, that I long thought it impossible for so clear-headed a writer as Mr. Sidgwick to have fallen into so obvious a fallacy, and I have read his various statements of this argument through many times in order to find some more substantial ground for his conclusions, but I confess without success: nor indeed can I imagine what other premiss he can supply, while I am clear that from the premisses I have stated no such conclusion as "the suppression of Egoism" can be evolved. I think the source of Mr. Sidgwick's error is traceable in the words "intrinsically desirable".* These words seem to have no meaning; desire must be felt by somebody, either the individual whose good is in question, or some other person. On the first alternative the premiss is that a man's own good is 'intrinsically desirable' to himself, from which it is impossible by any mere logical artifice to show that one man's good is 'intrinsically desirable' to another; on the second alternative the premiss is that a man's good is desirable to other people, and this is the very question to be proved. Mr. Sidgwick seems to have first convinced himself that Good is something 'objective' or 'universal,' and then to have argued that this must mean something independent of individuals altogether, whereas (as I have already tried to show) it may consist in a *universal relation* to individuals. The laws of nutrition of animals are clearly objective and universal, but surely Mr. Sidgwick would not argue that because my dinner is not 'intrinsically' more worthy of digestion than another's, therefore it is reasonable for me to digest all men's dinners, or even as much as I can of the dinners of as many men as possible. Yet I confess that "this seems to be as much a self-evident truth as the principle of Equity," or the principle of Benevolence.

* I may compare his use of the word in another passage (p. 316) where he says that "truths may be intrinsically self-evident which are yet not commonly seen to be so". Of course all truths are 'self-evident' to omniscience, but this is clearly not Mr. Sidgwick's meaning. I cannot even guess what it is. It is at least 'self-evident' *to me* that a truth, if evident at all, must be so to *somebody*. This confusion of thought is still more apparent in a subsequent assertion (p. 320) that "it is implied in the very notion of Truth that it is intrinsically the same for all minds". Surely the word 'intrinsic,' if it mean anything, excludes relation, so that to talk of a thing being 'intrinsically' perceived, or evident, or desirable, is a contradiction in terms.

That this was the source of Mr. Sidgwick's error seems confirmed by a recapitulation of the argument which he gives at p. 391, in which he says that it is effectual against the Egoist only if the latter put his proposition in the form that "his happiness is objectively desirable," and not if he put it in the form "that he ought to take his own happiness as his ultimate end". But why should the Egoist put it in that form? He would be very foolish to do so, for it is not what he means. His proposition is, 'Own happiness is desirable to each,' or, if you like, 'is *objectively* desirable,' and against this statement the Universalist is powerless, simply because it makes his paralogism evident. Let me take a parallel instance. If I say 'I see what my eyes show me,' no Universalist could argue from that to show me that I see, or ought to see, what all men's eyes see. But if I were foolish enough to say, 'What I see is objectively visible,' the Universalist might argue, 'What you see cannot be more objectively visible than what any other person sees, for the mere fact that you are you can have nothing to do with objective visibility,' and might conclude that I ought reasonably to see what all men saw. But when I put it, 'What each man sees is visible to him,' my Egoism is invulnerable.

I may remark in conclusion that even if the proof were admitted, it would be a deduction from Egoism, for Egoism is one of its data; and a conclusion can never be more valid than its premisses. At most the voice of 'Reason' would be divided, and we should have to seek counsel elsewhere.

The examination of Kant adds no fresh argument, and the conclusion of the whole matter is that the only axioms given *intuitively* by 'Common Sense' or 'Reason' are that Good is 'objective' and 'universal'. Now, since Reason has been defined as the faculty of apprehending moral distinctions (p. 23) as "a faculty which takes cognisance of objective truth" (p. 27), and as "the faculty of apprehending universal truth" (p. 85), we could have told at once that Reason would affirm that "moral distinctions" were "objective" and "universal," for that is contained in the definition: the only question, then, would be as to the existence of a faculty as so defined, and that is "assumed" by Mr. Sidgwick with an express refusal to argue the point. The result, therefore, seems to be that on the assumption of such a faculty there is such a faculty. For myself, I am quite ready to admit its existence; and the conclusion to which I say it leads, and to which I say that, assuming its existence, Mr. Sidgwick has proved that it leads, is the principle of Egoistic Hedonism, as the objective or universal law of morality. That he has seemed to reach another conclusion is due, not to any

fault in his analysis of the moral dicta of Reason, which seems to me to be admirable, but to a slip of reasoning which need only be pointed out to be recognised. That Hedonism of some kind is the verdict of Reason as against other ends he shows clearly in Book III., ch. xiv.; he also shows that Egoism is the form of Hedonism which Reason originally dictates, but that this must be universal. I quite agree; but I say, Universal Egoism is not Utilitarianism—and no logical jugglery will make one out of the other.

In his concluding chapter Mr. Sidgwick seems to give up his proof of Utilitarianism from Egoism, for he feels it necessary to seek for further sanctions of the principle of Utility than the "proof" by Reason. His conclusion is that we must "assume" a harmony of the two, because otherwise moral science is impossible, for reason is divided against itself. This harmony is "a hypothesis unverifiable by experiment," without which "the Cosmos of Duty is reduced to a Chaos, and the prolonged effort of the human intellect to form a perfect ideal of rational conduct is seen to have been fore-doomed to inevitable failure". This is a sad ending, that the only ground for believing that moral science exists is the waste of time which we have been making if it does not. I cannot refrain, therefore, in conclusion, from trying to comfort Mr. Sidgwick by the suggestion of a 'hypothesis' which accounts for what I admit to be proved by the analysis of the dicta of the Moral Faculty, *viz.*, the simultaneous presence in Reason of the Egoistic and Utilitarian principles, and reconciles them on a principle wider than both. It is a suggestion in its rudiments as old as Plato, but which, like many other happy guesses of Greek genius, has received a new meaning from physical science.

The end of all action is pleasure of the actor, and an action is good or right in proportion as it intentionally attains the end. If the actor be an organism or polity of members, his acts have two relations, one internal, the other external. His morality, therefore, has two sides, which may be called respectively the Law of Health and the Law of Conduct; and these vary in relative importance according to the completeness of organisation to which the actor has reached, that is, according as Evolution is for the time being more engaged in perfecting him as a unit or connecting him with other units into a higher organism. As unit organisms are gradually organised into higher organisms, the Law of Health of the higher organism and the Law of Conduct of the unit organisms are concurrently operative on the same unit organisms as codes for regulating their external relations; and though these codes serve different

functions, and are regulated by different ends, they are fundamentally the same, because they are different products or branches of the same physical law. Now the unit organism which we are principally concerned with is the individual man, and the most important higher organism of which he is the unit is the state or society. The Law of Conduct of the unit is Ethics and its principle is Egoism, and the Law of Health of the higher organism is Jurisprudence and Sociology, or, in the classical sense of the word, Politics, and its principle is Utilitarianism, *i.e.*, not 'the greatest happiness of the greatest number' of units, but the happiness of the *whole*. Hence in the human reason, which is an echo of human experience, that is, of internal egoistic desires and of external family, social, and political influences, the two principles of Egoism and Utilitarianism *must* be mixed; and if we analyse the common sense of mankind we need not be surprised to find a deep-lying principle of Egoism which will not be reasoned with because it is the old essential nature of the man, and an apparently later growth of Utilitarian maxims which rest their claim on the general assent of mankind rather than on the inner nature of each individual man. This is just what we should expect, and just what Mr. Sidgwick has found.

But man is not individual and citizen alone. Human life, as we live it, is a complex of relations. Besides his relation to nature which constitutes him an individual and gives content to his simplest Egoism, he is a member of a family, a profession, a social circle, a race, a country, and finally of an ideal society within his breast, a 'kingdom of heaven' whose voice is his own best feelings, his inner prescience of coming evolution, and whose omniscience he cannot hope to elude, because it is his own knowledge of himself. Each of these organisms impresses its Law of Health upon his actions and conscience, and so are produced in him the conceptions of 'duty' to his family, his friends, his country, and his God. If we ask *how* each of these Laws of Health impresses itself upon his moral nature, in other words, what is the *motive* to all these different Utilitarianisms, the answer would be that inasmuch as the essence of morality is that the ἀρχὴ should be internal, they can effect him morally only through his nature, by becoming part of it. This they do by artificially modifying his motives, *i.e.*, either by altering the consequences of his actions (as by reward or punishment, praise or blame), or by altering his belief as to those consequences—in other words, the *Ethical* value of Utilitarianism of whatever kind can only be as a *method* of Egoism. Similarly we might say that the Political or Social value of Egoism is only as a material of Utilitarianism, just as the Ethical value of Health is as a material of Egoism. Further development of the Physical System would

be here out of place, but I contend that it is a 'hypothesis' which not only, if true, explains the relation of Egoism and Utilitarianism, but is also 'verifiable by experience'. If it be verified, Ethical Science will stand on a firmer foundation than the sorrow we should feel if it were not true.*

ALFRED BARRATT.

IV.—THE SO-CALLED ANTINOMY OF REASON.

MENTAL action is known to us in one or other of three states, namely, awake or asleep or in an intermediate state which may be called somnolent. When awake the mind is simultaneously aware both of its actual surroundings and of itself. In normal sleep it has ceased to be aware of its actual surroundings and is unconscious. And in the somnolent state it is what may be called half-conscious. It may be obscurely aware of its surroundings or obscurely aware of itself but not of both simultaneously. Thus the light of the morning may awake the sleeper and he may *see* before the thought of *self* or any inner feeling at all has awoke. In all ordinary cases of awaking out of sleep, feeling is indeed imminent or immediately consequent upon perception. But the two, the objective and the subjective, are not only separable in analysis, they are occasionally separable also in time. Supposing the term sensibility to imply feeling and the term perceptivity to imply merely a capacity of being impressed by an object in some way that is somehow representative of that object, perceptivity is a simpler function than sensibility. Leibnitz in laying hold of perceptivity as the elemental conception of mind, was more happy and opened the way to a larger, a more harmonious, and philosophical conception of the universe than Kant who placed sensibility in this position. Those who insist upon both as inexorably given simultaneously, and who maintain that sub-

* Since the foregoing paper was in print, I have seen Mr. F. H. Bradley's elaborate examination of *The Methods of Ethics*. His criticism and mine are curiously divergent; but there is at least one of his beliefs, which he mentions incidentally, in which we are agreed—namely, that the only consistent Hedonism is Egoistic. Even that, however, he would take as an argument *against Hedonism* (for I fear he would not waste much politeness over the mental or moral qualities of an Egoist); whereas I have ventured to consider it an argument *for Egoism*. The difference between Mr. Bradley and myself, though it looks enormous, is in reality curiously small. I quite agree that Virtue is the Realisation of the will; only I add, the will is Pleasure. This I fear he will consider an 'irreducible minimum'. However, even that is sometimes got over; and a question of fact, which I hold this to be, should never be irreducible.

ject-object is the primal, the inseparable and true unity, and the only warrantable basis of philosophic belief, can never get beyond it. While appealing to consciousness as their supreme authority, they do violence, when they have proceeded but a little way, to that cumulative testimony of mankind which goes by the name of common sense; which nevertheless philosophy must respect if it is ever to be suitable for general culture, and to contribute to the intellectual and moral advancement of humanity.

The co-existence (so far as can be discovered) at the same moment of subject and object in the mind, that is, the existence of subject-object as the undivided and seemingly indivisible datum of the mental functioning, is not a state of things in which mind must be always unavoidably and necessarily involved. It is on the contrary only the product of a rhythmical action in mind that is proper to the waking state, depending on a corresponding somatic rhythm which may be roughly compared to the polarised state in the merely dynamic economy of nature.

At any rate in this two-fold mode of mental action which manifests at once the outward and the inward, the objective and the subjective, there may be detected a notable difference between the two phases in which it consists. In that which gives the objective, the mind is merely receptive and may be somnolent. Its principal relations are, as we may say, cosmical. That which gives the subjective wakes up in affirming what the other presents to belief. But this is not all; it forthwith proceeds to constitute consciousness, that is, to make place for itself in the midst of the inflowing tide of intuitions or informations, to defend itself against encroachments, to aggrandise itself, and ultimately to exclude or deny what the cosmical relation presents to belief, and which it is the first duty of the mind to affirm. As the former phase has been said to be cosmical, constitutional, spontaneous, merely a capacity—in function afferent or inbringing, so may this be said to be personal and volitional or of the nature of a power—in function efferent or aggressive. In brief and more familiarly, the former is the mind in its naturally synthetic phase of mental action; the latter is the mind in its analytic phase. And in one or other of these phases, usually in both simultaneously, more or less, and in none others, the mind as an intellectual agency always is when the individual is awake.

During sleep, the volitional, the analytical, phase retreats as it were or sheathes itself in the spontaneous, the synthetic phase, and leaves the mind simply intuitional or informational. Not that an undisturbed intuition of reality ensues, because the mind when in the brain is like a magnetic compass in the hold of an iron ship, which instead of pointing steadily to the pole reels

about, and if believed would mislead. Similarly during sleep, instead of a simple listening for impressions or an open steady intuition of reality, there is induced in all ordinary cases a careless play of mind and the presentation of only a mock-reality, a creation of the imagination—a dream.

Between these two phases of mental action it is further needful to be remarked that the cosmical, the spontaneous, the synthetic phase, however long-continued, implies no exhaustion of mental energy but rather the reverse, and therefore tends to pass through reverie into ecstacy; while the volitional, the personal, the analytical phase, being the outcome of the personal energy, does imply exhaustion and is ever liable to discharge itself in motion. Nevertheless this dynamic inequality between the two phases exists in the interest of the real and the true, provided error be not already in possession of the mind. Where this is the case then on the contrary, this liability of the analytic power to weakness in the weak and mere emotion in the strong gives rise to a general liability to believe what may not be belief-worthy, in one word, to credulity.

Supposing the mind thus awake, aware both of itself and its environments, to exist in the midst of any panorama, then, whilst its cosmical or synthetic phase secures to it a belief in the existence of that panorama, its analytical, volitional or personal phase, acting as *selective attention* or as it is more generally named *abstraction*, can vivify to any extent it pleases individualised objects in the given panorama, the mind becoming blind to object after object till they are all gone. The question is what remains of the original panorama as matter of direct and immediate intuition, the surviving datum of the sustained synthetic phase of the mental state? To this the answer is that there remains the intuition of the place where the now vanished objects were; there remains the intuition of room for any individualised objects which may be introduced again into the ambient where objects were before; there remains the intuition of SPACE implying a condition of the possibility of external objects, a conviction so deep-seated and constitutional that it is impossible to deny it or to conceive it to be otherwise.

Nor is there given to the mind in virtue of its synthetic phase, when in its place in nature, an intuition of Space only; it also obtains and cannot escape from an intuition of BEING or that which exists. This intuition indeed flows from a two-fold source and stands on a double basis, namely the inward manifestation of the mind to itself and the outwardly experienced fact producing the conviction that the intuition of space has in it more than mere emptiness, has in it, in a word, that for which there is no mistake in naming it Being.

Moreover, these intuitions of Space or immensity, and of Being or existence, when thus given by the mind in its cosmical or synthetic phase, are given wholly without limits, and not negatively but positively INFINITE. During the phase of mental existence which we have been considering, no limit has appeared. The idea of a limit has not yet emerged. There is nothing as yet to embarrass or stop the influence of the intuition in that character which the intuition itself ascribes to its object, namely Infinity. And here let us remark that the acceptance or the rejection of this view ought to depend entirely on what may be called the natural-history character of the intuition by those who have that intuition, not on the issue of an analysis which, though designed to be merely searching, yet so often proves to be destructive. Now the place which the idea of the Infinite has taken and holds in the history of humanity, especially in the most enlarged and elevated minds of all ages, demonstrates in a natural-history point of view that the Infinite is not a merely negative but a truly positive object. But it is not to be forgotten that during the state which we have been considering the embodied mind is supposed to be, although conscious, yet on the eve of sleep, the personal activity being in abeyance. That such a state of naked intuition does occur occasionally in the spontaneous course of life must, I think, be admitted. Nor are we, the victims of the over-activity of the West, as appears to me, warranted in denying what the meditative minds of the East affirm, that such a state is attainable by education—by a life-long discipline of contemplation and repose.

When we are fully awake as in all ordinary states of thinking, when the personal, the volitional, the analytic phase of mind is in action, a remarkable change comes over the previous character of our intuition. Conception then takes the place of simple intuition. Definition or an attempt to define everything, and in every case a LIMIT, then emerges. And it is reproduced as often as the recurrence of the previous state of intuition puts it out of the way.

The reason of this is that the mind when acting as a specially individualised being, itself limited in energy as it ever is and ever must be, co-ordinates and ever must co-ordinate its views of things with itself as its principal object of regard. This, the cosmical law of assimilation compels. What the primal intuition gives therefore to the mind as a pure receptivity, the personal functioning being in abeyance and reality truly mirroring itself in the reposing soul, (in which case reality is felt and seen to be infinite and absolute), the mind when acting out from itself reflectively, volitionally, personally finds to be like itself finite and conditioned.

Hence the infinitude, the boundlessness of space, as given in the pure intuition of it, is interfered with. A limit is fixed upon. And though the primal intuition as often as it recurs obliterates that limit and carries thought beyond it, yet in the next fit of the mind's personal action the limit is reproduced. But it is now more distant than before. And so on alternately as long as any one pleases. The ultimate view is thus a conception of a sphere, the mind in the centre and the periphery too distant to be considered. Yet a periphery is affirmed to exist somewhere, because the mind's own activity is more important to itself than its receptivity of impressions, and therefore it claims the last word.

The same phenomenon occurs when, instead of thinking of space in all its immensity, we think of it as the smallest volume conceivable. The personal activity comes in here as before, but now to exhaust space or bring it to a close. No such issue however is possible. In virtue of the infinitude of the primal intuition, a volume still remains after every act of dichotomy—I do not say after every section, for space is essentially continuous and cannot be divided. When it is cut into, it exists in the partitionments the same as on their sides. Instead of being infinitely divisible as is commonly said, space is not divisible at all. It is absolutely fixed as well as infinitely extended.

In these respects Space differs from Being, from matter for instance. Thus let the atom, the true material element, be merely a centre of force so that the extension of body shall be produced by centres of force in juxta-position, balanced at proper distances from each other by their reciprocal attractions and repulsions, then as there is a natural so is there a logical limit to divisibility when these elements are separated or viewed as separate from each other; for a centre is that which has indeed position in space but has not space within itself. It has no volume or magnitude to supply a field for the mind in its analytic phase to affirm infinite divisibility of it. And following so far in the footsteps of Leibnitz and Boscovich by the aid of the discoveries of modern chemistry, I have shown that on such a view of matter the phenomena of the molecular world may be explained to an unprecedented extent, and indeed without limit.

The view which we have obtained by banishing from thought all individualised objects, and leaving only what cannot be got rid of, has given us as necessary or unavoidable intuitions absolute being and sufficient and therefore infinite room for it or space. And these intuitions are so blended, so simultaneous and united, that when they first come in they do not force upon the mind the idea of change. Nevertheless they are a couple. They imply an alternative. And the mind in its activity and natural restlessness soon shifts and varies its regard from the one to the

other, and thus feels a change, and remembering it marks a difference and makes it the object of reflection. And thus the mind becomes cognisant of change and succession, and consequently of duration, in a word, of TIME. Time thus comes into the mind as the medium or possibility of change. So far then it is analogous to space. Like space it is a field for the occurrence of phenomena. But both in its genesis and in its relations time differs remarkably from space. Thus space is discovered to the mind in its synthetical, its cosmical, its spontaneous and unavoidable phase of action. Time is discovered and we may say created by the mind in its personal, its analytical, its volitional phase of action. Space is a manifestation in the objective or outward field of thought, time in the inner. Nevertheless there is such reciprocal urgency between the ideas of space and time, that it may be questioned whether it is possible to think of mere or pure time without the idea of space intruding itself into the thought. Thus whenever there is in the mind the idea of time there must be simultaneously the cognisance or conception explicitly or implicitly of at least two distinguishable objects. Now in consequence of this, though the pure idea of time regards them only as successive, yet the imminence, the constant presence, of the idea of space is ever apt to interpose the thought that there is some distance between them, and so to mix up the idea of space with that of time. Hence nothing more common even in philosophic works than to find the author speaking of a 'space of time' instead of a 'duration of time'. In consequence of the poverty of language indeed it is impossible to avoid speaking of 'the length of time', 'the shortness of time', though these terms apply literally to space only.

Hence also the degradation of both ideas when space is spoken of as extensive quantity, and time as protensive quantity, conceptions which apply only to volume and movement not to space or time at all.

It is this confusion which prevents our being able to think of a beginning or an end of time. In itself the thought is as easy as is the thought of a beginning or an ending of change. This, it may be said, is impossible also. And so no doubt it is, so long as the consciousness or the surreptitious influence of life enters into our thought; for life is change. For a like reason it is impossible, while the doctrine of cause is in possession of the mind; for life is cause as well as change. But as to mere time, succession, duration, that which the observation of change imparts to the mind, it must cease when all observation of change ceases. To a Being with whom there is no variableness nor shadow of turning, there can be no past, no future, all must be one present panorama. There is no field for time. Eternity in that case holds the place.

of time. Now this idea—Eternity—is not, as nevertheless it seems to be, the synthetic conception of all times considered as one. Eternity is not the totality of time. Thought, when from time it has slid into eternity, has unconsciously changed its ground, and is in point of fact contemplating the infinite. The thought which is the product of the personal activity has given place to that which is given by the cosmical intuition.

There is nothing therefore which is merely poetic and figurative in the anticipation of an epoch when time shall be no more. It is rather a promise to the soul of a higher mode of intuition, when it has attained the lucidity of a true repose, when, as the Buddhist philosophers say, "the pride of the I am is subdued."

The tenet that an absolute beginning and an absolute ending of time are unthinkable is the result of confusion of ideas and defective analysis. What is thought of as the ground of such an affirmation is not "pure time" but "space of time," not the field of change but the field of existence. The latter is indeed truly beginningless, truly unending; and to attempt to estimate it by adding time to time or volume to volume, or in any way by the use of the personal or analytical power of the mind, is vain. A sum of numbers or of forms, however great or vast, remains for ever infinitely short of the infinite. This is a simple indivisible intuition given to the mind when reposing in its cosmical relation. All attempts whether to realise or to deny it by the exercise of the personal, the volitional, the analytical action of the mind are misapplied and futile. The alternate affirmation and denial by the mind of the absolute, the infinite, is not a valid contradiction. It is not an antinomy in reason. It is only the result of a mistake in the use of reason, or rather indeed of reasoning. That which the philosopher of Königsberg called the practical reason is best entitled to the name of reason without any qualification. It is the information of the mind when functioning in its cosmical phase and lighted up by intuition with all the greatest cosmical truths. The question as to the way in which the embodied mind comes to be possessed of these truths, whether at once by the imminence, the penetrative power, and the immediate impressiveness upon it of the corresponding realities, or piece-meal by Zoic development and the synthesis of lower instincts, need not be considered. Our mental inability to grasp and see through combinations which are manifold, and our consequent demand for that which is simple and easily conceivable, will always secure a popular vote in favour of development. Meantime the knowledge of the fact is the main thing. And intuition in man cannot be cogently denied so long as instinct in animals is granted. Surely, too,

we ought to pay the greatest respect to intuition so far as it is verified by reality, since all that we can do by way of reasoning and demonstration is to infer identity—not where there is no difference but—where no difference appears to us.

J. G. Macvicar.

V.—'CRAM.'

A human institution has like man its seven ages. In its infancy unknown and unnoticed, it excites in youth some interest and surprise. Advancing towards manhood, every one is forward in praising its usefulness. As it grows up and becomes established, the popular tone begins to change. Some people are unavoidably offended or actually injured by a new institution, and as it grows older and more powerful, these people become more numerous. In proportion to the success of an undertaking, will be the difficulties and jealousies which are encountered. It becomes the interest of certain persons to find out the weak points of the system, and turn them to their private advantage. Thus the institution reaches its critical age, which safely surmounted, it progresses through a prosperous middle life to a venerable old age of infirmities and abuses, dying out in the form of a mere survival.

There is no difficulty in seeing what period of life the examination-system has now reached. It is that critical age at which its progress is so marked as to raise wide-spread irritation. To abuse examinations is one of the most popular commonplaces of public speeches and after-dinner conversation. Everybody has something to say in dispraise, and the reason is pretty obvious. Many persons have been inconvenienced by examinations; some regret the loss of patronage; others the loss of patrons and appointments; schoolmasters do not like having their work rudely tested: they feel the competition of more far-sighted teachers who have adapted themselves betimes to a new state of things. In these and other ways it arises that a formidable minority actually have good grounds for hating examinations. They make their feelings widely known, and the general public, ever ready to grumble at a novelty of which they hear too much, and do not precisely appreciate the advantages, take up the burden of the complaint.

Fortunately, too, for the opponents of examination, an admirable 'cry' has been found. Examination, they say, leads to 'cram,' and 'cram' is the destruction of true study. People

who know nothing else about examination know well enough that it is 'cram'. The word has all the attributes of a perfect *question-begging epithet.* It is short, emphatic, and happily derived from a disagreeable physical metaphor. Accordingly, there is not a respectable gentleman distributing prizes to a body of scholars at the end of the session, and at a loss for something to say, who does not think of this word 'cram,' and proceed to expatiate on the evils of the examination-system.

I intend in this article to take up the less popular view of the subject and say what I can in favour of examinations. I wish to analyse the meaning of the word 'cram,' and decide, if possible, whether it is the baneful thing that so many people say. There is no difficulty in seeing at once that 'cram' means two different things, which I will call 'good cram' and 'bad cram'. A candidate, preparing for an important competitive examination, may put himself under a tutor well-skilled in preparing for that examination. This tutor looks for success by carefully directing the candidate's studies into the most 'paying' lines, and restricting them rigorously to those lines. The training given may be of an arduous, thorough character, so that the faculties of the pupil are stretched and exercised to their utmost in those lines. This would be called 'cram' because it involves exclusive devotion to the answering of certain examination-papers. I call it 'good cram'.

'Bad cram,' on the other hand, consists in temporarily impressing upon the candidate's mind a collection of facts, dates, or formulæ, held in a wholly undigested state and ready to be disgorged in the examination-room by an act of mere memory. A candidate, unable to apprehend the bearing of Euclid's reasoning in the first book of his *Elements*, may learn the propositions off by heart, diagrams, letters and all, like a Sunday scholar learning the collects and gospels. Dates, rules of grammar, and the like, may be 'crammed' by mnemonic lines, or by one of those wretched systems of artificial memory, teachers of which are always going about. In such ways it is, I believe, possible to give answers which simulate knowledge, and no more prove true knowledge, than the chattering of a parrot proves intellect.

I am far from denying the existence of 'bad cram' of this character, but I hold that it can never be advantageously resorted to by those who are capable of 'good cram'. To learn a proposition of Euclid by heart is far more laborious than for a student of moderate capacity to master the nature of the reasoning. It is obvious that all advantages, even in an examinational point of view, are on the side of real knowledge. The slightest lapse of memory in the bad 'crammer,' for instance the putting of wrong letters in the diagram, will disclose the simulated character of his work, and the least change in the conditions of the proposi-

tion set will frustrate his mnemonic devices altogether. If papers be set which really can be answered by mere memory, the badness is in the examiners.

Thorough blockheads may be driven to the worst kind of 'cram,' simply because they can do nothing better. Nor do the blockheads suffer harm; to exercise the memory is better than to leave the brain wholly at rest. Some qualities of endurance and resolution must be called into existence, before a youth can go through the dreary work of learning off by heart things of which he has no comprehension. Nor with examiners of the least intelligence is there any reason to fear that the best directed 'bad cram' will enable a really stupid candidate to carry off honours and appointments due to others. No examination-papers even for junior candidates should consist entirely of 'book-work,' such as to be answered by the simple reproduction of the words in a text-book. In every properly conducted examination, questions are, as a matter of course, set to test the candidate's power of applying his knowledge to cases more or less different from those described in the books. Moreover good examiners always judge answers by their general style as well as by their contents. It is really impossible that a stupid slovenly candidate can by any art of 'cramming' be enabled to produce the neat, brief, pertinent essay, a page or two long, which wins marks from the admiring examiners.

If we may judge from experience, too, 'bad cram' does not pay from the tutor's point of view. That this is so we may learn from the fact that slow ignorant pupils are ruthlessly rejected by the great 'coaches'. Those who have their reputation and their living to make by the success of their candidates cannot afford to waste their labour upon bad material. Thus it is not the stupid who go to the 'cramming' tutors to be forced over the heads of the clever, but it is the clever ones who go to secure the highest places. Long before the critical days of the official examination, the experienced 'coach' selected his men almost as carefully as if he were making up the University boat. There is hardly a University or a College in the kingdom which imposes any selective process of the sort. An entrance or matriculation examination, if it exists at all, is little better than a sham. All comers are gladly received to give more fees and the appearance of prosperity. Thus it too often happens that the bulk of a college class consists of untutored youths through whose ears the learned instructions of the professor pass, harmlessly it may be, but uselessly. Parents and the public have little idea how close a resemblance there is between teaching and writing on the sands of the sea, unless either there is a distinct capacity for learning on the part of the pupil, or some system of examination and reward to force the pupil to apply.

For these and other reasons which might be urged, I do not consider it worth while to consider 'bad cram' any further. I pass on to inquire whether 'good cram' is an objectionable form of education. The good 'cramming' tutor or lecturer is one whose object is to enable his pupils to take a high place in the list. With this object he carefully ascertains the scope of the examination, scrutinises past papers, and estimates in every possible way the probable character of future papers. He then trains his pupils in each branch of study with an intensity proportioned to the probability that questions will be asked in that branch. It is too much to assume that this training will be superficial. On the contrary, though narrow it will probably be intense and deep. It will usually consist to a considerable extent in preliminary examinations intended both to test and train the pupil in the art of writing answers. The great 'coaches' at Cambridge in former days might be said to proceed by a constant system of examination, oral instruction or simple reading being subordinate to the solving of innumerable problems. The main question which I have to discuss, then, resolves itself into this :— whether intense training directed to the passing of certain defined examinations constitutes real education. The popular opponents of 'cram' imply that it does not ; I maintain that it does.

It happened that, just as I was about to write this article, the Home Secretary presided at the annual prize-distribution in the Liverpool College, on the 22nd December, 1876, and took occasion to make the usual remarks about 'cram'. He expressed with admirable clearness the prevailing complaints against examinations, and I shall therefore take the liberty of making his speech in some degree my text. "Examination is not education," he said. "You require a great deal more than that. As well as being examined, you must be taught. . . . . In the great scramble for life there is a notion at the present moment of getting hold of as much general superficial knowledge as you can. That to my mind is a fatal mistake. On the other hand, there is a great notion that if you can get through your examination and 'cram up' a subject very well, you are being educated. That, too, is a most fatal mistake. There is nothing which would delight me so much, if I were an examiner, as to baffle all the 'cramming' teachers whose pupils came before me" (laughter).

Let us consider what Mr. Cross really means. Examination, he says, is not education ; we require a great deal more ; we must be taught as well as be examined. With equal meaning I might say, 'Beef is not dinner ; we want a great deal more ; we must have potatoes, bread, pudding, and the like'. Nevertheless beef is a principal part of dinner. Nobody, I should

think, ever asserted or imagined that examination alone was education, but I nevertheless hold that it is one of the chief elements of an effective education. As Mr. Cross himself said in an earlier part of his speech, "the examination is a touchstone and test which shows the broad distinction between good and bad. . . . You may manage to scramble through your lessons in the 'half,' but I will defy you to get through your examinations if you do not know the subjects."

Another remark of Mr. Cross leads me to the main point of the subject. He said—"It is quite necessary in the matter of teaching that whatever is taught must be taught well, and nothing that is taught well can be taught in a hurry. It must be taught not simply for the examination, but it must sink into your minds, and stay there for life."

Both in this and his other remarks Mr. Cross commits himself to the popular but wholly erroneous notion that what boys learn at school and college should be useful knowledge indelibly impressed upon the mind, so as to stay there all their lives, and be ready at their fingers' ends. The real point of the objections to examination commonly is, that the candidate learns things for the examination only, which, when it is safely passed, he forgets again as speedily as possible. Mr. Cross would teach so deliberately and thoroughly that the very facts taught could not be forgotten, but must ever after crop up in the mind whatever we are doing.

I hold that remarks such as these proceed from a wholly false view of the nature and purposes of education. It is implied that the mind in early life is to be stored with the identical facts, and bits of knowledge which are to be used in after life. It is, in fact, Mr. Cross and those who think with him, who advocate a kind of 'cram,' enduring it is true, but still 'bad cram'. The true view of education, on the contrary, is to regard it as a course of training. The youth in a gymnasium practises upon the horizontal bar, in order to develop his muscular powers generally; he does not intend to go on posturing upon horizontal bars all through life. School is a place where the mental fibres are to be exercised, trained, expanded, developed, and strengthened, not 'crammed' or loaded with 'useful knowledge'.

The whole of a youth's subsequent career is one long course of technical 'cramming' in which any quantity of useful facts are supplied to him *nolens volens*. The merchant gets his technical knowledge at the clerk's desk, the barrister in the conveyancer's offices or the law courts, the engineer in the workshop and the field. It is the very purpose of a *liberal education*, as it is correctly called, to develop and train the plastic fibres of the youthful brain, so as to prevent them taking too early a

definite 'set,' which will afterwards narrow and restrict the range of acquisition and judgment. I will even go so far as to say that it is hardly desirable for the actual things taught at school to stay in the mind for life. The source of error is the failure to distinguish between the *form* and the *matter* of knowledge, between the facts themselves and the manner in which the mental powers deal with facts.

It is wonderful that Mr. Cross and those who moralise in his strain do not perceive that the actual facts which a man deals with in life are infinite in number, and cannot be remembered in a finite brain. The psychologists, too, seem to me to be at fault in this matter, for they have not sufficiently drawn attention to the varying degrees of duration required in a well organised memory. We commonly use the word Memory so as to cover the faculties of Retention, Reproduction and Representation, as described by Hamilton, and very little consideration will show that in different cases we need the powers of retention, of suggestion and of imagination in very different degrees. In some cases we require to remember a thing only a few moments, or a few minutes; in other cases a few hours or days; in yet other cases a few weeks or months: it is an infinitesimally small part of all our mental impressions which can be profitably remembered for years. Memory may be too retentive, and facility of forgetting and of driving out one train of ideas by a new train is almost as essential to a well-trained intellect as facility of retention.

Take the case of a barrister in full practice, who deals with several cases in a day. His business is to acquire as rapidly as possible the facts of the case immediately before him. With the powers of representation of a well-trained mind, he holds these facts steadily before him, comparing them with each other, discovering their relations, applying to them the principles and rules of law more deeply graven on his memory, or bringing them into connection with a few of the more prominent facts of previous cases which he happens to remember. For the details of laws and precedents he trusts to his text writers, the statute book, and his law library. Even before the case is finished his mind has probably sifted out the facts and rejected the unimportant ones by the law of obliviscence. One case done with, he takes up a wholly new series of facts, and so from day to day, and from month to month, the matter before him is constantly changing. The same remarks are even more true of a busy and able administrator like Mr. Cross. The points which come before him are infinite in variety. The facts of each case are rapidly brought to his notice by subordinates, by correspondence, by debates in the House, by deputations and interviews,

or by newspaper reports. Applying well-trained powers of judgment to the matter in hand, he makes a rapid decision and passes to the next piece of business. It would be fatal to Mr. Cross if he were to allow things to sink deep into his mind and stay there. There would be no difficulty in showing that in like manner, but in varying degrees, the engineer, the physician, the merchant, even the tradesman or the intelligent artisan, deal every day with various combinations of facts which cannot all be stored up in the cerebral framework, and certainly need not be so.

The bearing of these considerations upon the subject of examinations ought to be very evident. For what is 'cram' but the rapid acquisition of a series of facts, the vigorous getting up of a case, in order to exhibit well-trained powers of comprehension, of judgment, and of retention before an examiner? The practised barrister 'crams' up his 'brief' (so called because, as some suppose, made *brief* for the purpose) and stands an examination in it before a judge and jury. The candidate is not so hurried; he spends months or it may be two or three years in getting up his differential calculus or his inorganic chemistry. It is quite likely that when the ordeal is passed, and the favourable verdict delivered, he will dismiss the equations and the salts and compounds from his mind as rapidly as possible; but it does not follow that the useful effect of his training vanishes at the same time. If so, it follows that almost all the most able and successful men of the present day threw away their pains at school and college. I suppose that no one ever heard of a differential equation solving a nice point of law, nor is it common to hear Sophocles and Tacitus quoted by a leading counsel. Yet it can hardly be denied that our greatest barristers and judges were trained in the mathematical sciences, or if not, that their teachers thought the classics a better training ground. If things taught at school and college are to stay in the mind to serve us in the business of life, then almost all the higher education yet given in this kingdom has missed its mark.

I come to the conclusion, then, that well-ordered education is a severe system of well-sustained 'cram'. Mr. Herbert Spencer holds that the child's play simulates the actions and exercises of the man. So I would hold that the agony of the examination-room is an anticipation of the struggles of life. All life is a long series of competitive examinations. The barrister before the jury; the preacher in his pulpit; the merchant on the Exchange flags; the member in the House—all are going in for their 'little goes,' and their 'great goes,' and their 'triposes'. And I unhesitatingly assert that as far as experience can guide us, or any kind of reasoning enable us to infer, well-conducted com-

petitive examinations before able examiners, are the best means of training, and the best method of selection for those who are to be foremost in the battle of life.

I will go a step further, and assert that examination in one form or another is not only an indispensable test of results, but it is a main element in training. It represents the active use of faculties as contrasted with that passive use which too often resolves itself into letting things come in at one ear and go out at the other. Those who discuss examinations in the public papers, seem to think that they are held occasionally and for the sole purpose of awarding prizes and appointments. But in every well-ordered course of instruction there ought to be, and there usually are, frequent less formal examinations of which outsiders hear nothing. The purposes of these examinations are manifold; they test the progress of the class, and enable the teacher to judge whether he is pursuing a right course at a right speed; they excite emulation in the active and able; they touch the pride even of those who do not love knowledge much, but still do not like to write themselves down absolute blockheads; and they are in themselves an exercise in English composition, in the control of the thoughts, and the useful employment of knowledge. In direct educational effect a written examination may be worth half-a-dozen lectures. Mr. Cross says that examination is not education; I say that it is. Of course you cannot examine upon nothing, just as you cannot grind flour in a mill unless you put the grain in. Nevertheless examination in some form or other represents the really active grinding process in the pupil's mind.

It is not merely that which goes into the eyes and ears of a student which educates him; it is that which comes out. A student may sit on the lecture-room benches and hear every word the teacher utters; but he may carry away as much useful effect as the drowsy auditor of a curate's sermon. To instruct a youth in gymnastics, you do not merely explain orally that he is to climb up one pole, and come down another, and leap over a third. You make him do these motions over and over again, and the education is in the exertion. So intellectual education is measured not by words heard or read, but by thoughts excited. In some subjects mental exertion in the pupil is called forth by the working of problems and exercises. These form a kind of continuous examination, which should accompany every lecture. Arithmetic is only to be learnt by sums upon the schoolboy's slate, and it is the infinite variety of mathematical tasks from common addition upwards, which makes mathematical science the most powerful training ground of the intellect. The late Professor De Morgan was probably the greatest teacher of mathematics who ever lived. He considered it requisite that students should at-

tend his expository lectures for an hour and a quarter every day; but he always gave an abundance of exercises as well, which, if fully worked out, would take at least as long, and often twice as long a time. Exercises are the sheet-anchor of the teacher, and in this way only can we explain the extraordinary propensity of classical teachers towards Latin verses. As I have heard such teachers explain, verses though useless in every other way afford a definite measurable amount of exercise—a manageable classical treadmill. For many years past it was my duty to teach several subjects—Logic, Mental and Moral Philosophy, and Political Economy. Experience made me acutely aware of the very different educational values of these diverse subjects. Logic is by far the best, because when properly taught it admits of the same active training by exercises and problems that we find in mathematics. It is no doubt necessary that some instruction should also be given to senior students in philosophy and political economy; but it is difficult in these subjects to make the student think for himself. Examination, then, represents the active as opposed to the passive part of education, and in answer to Mr. Cross's statement that examination is not education, I venture to repeat that, in some form or other, examination is the most powerful and essential means of training the intellect.

I now pass on to the wholly different question whether open competitive examinations are the best means of selecting men for important appointments. In this view of examinations the educational results are merely incidental, and the main object is to find an impartial mode of putting the right man into the right place, and thus avoiding the nepotism and corruption which are almost inseparable from other methods of appointment. At first sight it might seem absurd to put a man in a position requiring judgment and tact and knowledge of the world because he answers rightly a few questions about mathematics and Greek. The head master of a great school succeeds not by the teaching of the higher forms, but by the general vigour and discretion of his management. He is an administrator not a pedagogue; then why choose a high wrangler, because of his command over differential equations? Why make a young man a magistrate in Bengal, because of his creditable translations from the classics, or his knowledge of English history? Would it not be far better to select men directly for any success which they have shown in the management of business exactly analogous to that they will have to perform?

Experience must decide in such matters, and it seems to decide conclusively in favour of examinations. Public opinion and practice at any rate are in favour of this conclusion. For a long

time back the honours' degrees of Oxford and Cambridge have been employed as a means of selection. It does not of course follow that a high wrangler, or a double first, will suit every important position; but it is almost always expected now-a-days that a man applying for a high post shall have some high degree. Even those who are unfettered in their powers of appointment will seldom now appoint a young man to a conspicuous post unless his degree will justify the appointment in the eyes of the public. The President of the Council, for instance, is unrestricted in the choice of School Inspectors, but he practically makes a high degreee a *sine qua non*. Not only does he thus lessen his responsibility very greatly, and almost entirely avoid suspicion of undue influence, but the general success and ability of those appointed in this manner fully bear out the wisdom of the practice.

The fact seems to be that the powers which enable a man to take a conspicuous place in a fierce competitive examination are closely correlated, if they be not identical, with those leading to success in the battle of life. It might be expected that a high wrangler or a double first would generally be a weakly book-worm, prematurely exhausted by intense study, unable to expand his mind beyond his books, and deficient in all the tact and worldly knowledge to be acquired by mixing in the business of life. But experience seems to negative such ideas. The weakly men are weeded out before they get to the final struggle, or breakdown in the course of it. The true book-worm shows himself to be a book-worm, and does not fight his way to a high place. Success in a severe examination requires, as a general rule, a combination of robust physical health, good nerve, great general energy, and powers of endurance and perseverance, added to pure intellectual ability. There are of course exceptions in all matters of this sort, but, so far as we can lay down rules in human affairs, it is the *mens sana in corpore sano* which carries a candidate to the higher part of the list.

A man must not always be set down as a blockhead because he cannot stand the examination-room. Some men of extensive knowledge and much intelligence lose their presence of mind altogether when they see the dreadful paper. They cannot command their thoughts during the few hours when their success in life is at stake. The man who trembles at the sight of the paper is probably defective in the nerve and moral courage so often needed in the business of life. It by no means follows, again, that the man of real genius will take a conspicuous place in the list. His peculiar abilities will often lie in a narrow line and be correlated with weakness in other directions. His powers can only be rendered patent in the course of time. It is

well known that some of the most original mathematicians were not senior wranglers. Public examinations must be looked upon as tests of general rather than special abilities; talent, strength, and soundness of constitution win the high place, powers which can be developed in any direction in after life.

If evidence were needed to support this view of the matter it is amply afforded by the recent Parliamentary Report on the education and training of candidates for the Indian Civil Service. Whatever may be thought as to the details of the methods of training, which have been recently modified, there can be no doubt that this report is conclusive as to the success of examinational selection. The ability of the statements furnished to this report by officers appointed by open competition goes far to prove the success of the system. It is impossible to imagine a severer test than that system has passed through in the case of the Indian Civil Service. Young men selected for the amount of Latin, Greek, Mathematics, French, German, Logic, Political Economy, and so forth, which they could 'cram up', have been sent out at 21 or 23 years of age, and thrown at once into a new world, where it is difficult to imagine that their 'crammed' knowledge could be of the least direct use. There they have been brought into contact with a large body of older officers, appointed under a different system, and little prejudiced in favour of these 'Competition Wallahs'. Yet the evidence is overwhelming to the effect that these victims of 'cram' have been successful in governing India. A large number of the best appointments have already been secured by them, although the system has only been in existence for twenty-two years, and seniority is naturally of much account. The number who are failures is very small, certainly smaller than it would be under the patronage system. It is impossible that I should within the limits of this article present the evidence accumulated on this subject. I must refer the reader to the Blue Book itself, which is full of interest for all concerned in education.* I must also refer the reader to the remarkably able essays on the subject published by Mr. Alfred Cotterell Tupp, B.A. of the Bengal Civil Service,† to which essays I am indebted for some of my ideas on this subject. Mr. Tupp gives a powerful answer to the celebrated attack on the competitive system contained in the *Edinburgh Review* of April, 1874. He gives statistical tables and details concerning the careers of the men selected by competition, and

* *The Selection and Training of Candidates for the Indian Civil Service* (C. 1446) 1876. Price 3s. 5d.

† *The Indian Civil Service and the Competitive System, a discussion on the Examinations and the Training in England.* London: R. W. Brydges, 137, Gower Street. 1876.

a general account of the examinations and of the organisation in which the civil servant takes his place. The evidence against selection by competition seems to come to this, that, after a most complete inquiry, the worst that can be made out against the 'Competition Wallahs' is that some of them do not ride well, and that there is a doubt in some cases about the polish of their manners, or the sweetness of their culture.

Doubt, indeed, was thrown by some writers upon the physical suitability of selected candidates; but on this point a most remarkable fact was brought to light. All the candidates for the Indian Civil Service have to undergo two strict medical examinations before Sir William Gull, so that this eminent physician is able to speak with rare authority as to the physical health of the candidates. This is what he says (*Report*, p. 36):—"I still continue to be impressed with the fact that a sound physical constitution is a necessary element of success in these competitive examinations. The men who have been rejected have not failed from mere weakness of constitution, but (with only a solitary exception or two) from a mechanical defect in the valves of the heart in otherwise strong men, and for the most part traceable to over-muscular exercises. . . . There is a somewhat prevalent opinion, that the courses of study now required for the public service are calculated to weaken the physical strength of candidates. Experience does not only not confirm this, but abundantly proves that the course of life which conduces to sound intellectual training, is equally favourable to the physical health of the student."

Unless then we are prepared to reject the opinion of the physician who has had the best possible means of forming a sound conclusion, a competitive examination is actually a good mode of selecting men of good physical health, so closely are the mental and bodily powers correlated as a general rule.

It is impossible that I should in a single article treat of more than two or three of the principal arguments which may be urged in defence of the examination-system. Did space admit I might go on to point out the great improvement which has taken place in education since effective examinations were established. The condition of Oxford and Cambridge as regards study in the present day may not be satisfactory, but it is certainly far better than at the close of the last century. The middle class schools are yet far from what they ought to be, but the examination-system set on foot by the old universities is doing immense good, giving vigorous and definite purpose where before a schoolmaster had hardly any other object than to get easily through the 'half'. Primary schools would for the most part be as bad as the old dames' schools, did not the visits of

Her Majesty's Inspectors stir them up to something better. In one and all of the grades of English education, to the best of my belief, examination is the sheet-anchor to which we must look.

I will not conclude without adverting briefly to a few of the objections urged against the examination-system. Some of these are quite illusory; others are real though possibly exaggerated. No institution can be an unmixed good, and we must always strike a balance of advantage and disadvantage. One illusory objection, for instance, is urged by those who take the high moral ground and assert that knowledge should be pursued for its own sake, and not for the ulterior rewards connected with a high place in the examination-list. The remarks of these people bring before the mind's eye the pleasing picture of a youth burning the midnight oil, after a successful search for his favourite authors. We have all of us heard how some young man became a great author, or a great philosopher, because, in the impressible time of boyhood, he was allowed to ransack the shelves of his ancestral library. I do not like to be cynical, but I cannot help asserting that these youths, full of the sacred love of knowledge, do not practically exist. Some no doubt there are, but so small is the number with which the school or college teacher will meet in the course of his labours, that it is impossible to take them into account in the general system. Every teacher knows that the bulk of a junior class usually consists of intellects so blunt or so inactive that every kind of spur is useful to incite them to exertion.

Nor do I believe that the few who are by nature ardent students need suffer harm from a well-devised system of university examinations. It is very pleasant to think of a young man pursuing a free and open range of reading in his ancestral library, following his native bent, and so forth; but such study directed to no definite objects would generally be desultory and unproductive. He might obtain a good deal of elegant culture, but it is very doubtful whether he would acquire those powers of application and concentration of thought which are the basis of success in life. If a man really loves study and has genius in him, he will find opportunities in after life for indulging his peculiar tastes, and will not regret the three or four years when his reading was severely restricted to the lines of examination. Of course it is not desirable to force all minds through exactly the same grooves, and the immense predominance formerly given to mathematics at Cambridge could not be defended. But the schemes of examination at all the principal universities now offer many different branches in which distinction may be gained.

The main difficulty which I see in the examination-system is

that it makes the examiner the director of education in place of the teacher, whose liberty of instruction is certainly very much curtailed. The teacher must teach with a constant eye to the questions likely to be asked, if he is to give his pupils a fair chance of success, compared with others who are being specially 'crammed' for the purpose. It is true that the teacher may himself be the examiner, but this destroys the value of the examination as a test or means of public selection. Much discussion might be spent, were space available, upon the question whether the teacher or the examiner is the proper person to define the lines of study. No doubt a teacher will generally teach best, and with most satisfaction to himself, when he can teach what he likes, and, in the case of University professors or other teachers of great eminence, any restriction upon their freedom may be undesirable. But as a general rule examiners will be more able men than teachers, and the lines of examination are laid down either by the joint judgment of a board of eminent examiners, or by authorities who only decide after much consultation. The question therefore assumes this shape—Whether a single teacher, guided only by his own discretion, or whether a board of competent judges, is most to be trusted in selecting profitable courses of study?

Few have had better opportunity than I have enjoyed both as teacher and examiner in philosophical and economical subjects, of feeling the difficulties connected with a system of examination in these subjects. Some of these difficulties have been clearly expounded in the series of articles upon the state of philosophical study at the different Universities published in MIND. It is hardly needful to refer to the excellent discussion of the philosophical examination in the London University by the Editor in No. IV. I should not venture to defend University examination against all the objections which may be brought against them. My purpose is accomplished in attempting to show that examination is the most effective way of enforcing a severe and definite training upon the intellect, and of selecting those for high position who show themselves best able to bear this severe test. It is the popular cry against 'cram' that I have answered, and I will conclude by expressing my belief that any mode of education which enables a candidate to take a leading place in a severe and well-conducted open examination, must be a good system of education. Name it what you like, but it is impossible to deny that it calls forth intellectual, moral, and even physical powers, which are proved by unquestionable experience to fit men for the business of life.

This is what I hold to be Education. We cannot consider it the work of teachers to make philosophers and scholars and

geniuses of various sorts: these, like poets, are born not made. Nor, as I have shown, is it the business of the educator to impress indelibly upon the mind the useful knowledge which is to guide the pupil through life. This would be 'cram' indeed. It is the purpose of education so to exercise the faculties of mind that the infinitely various experience of after-life may be observed and reasoned upon to the best effect. What is popularly condemned as 'cram' is often the best devised and best conducted system of training towards this all-important end.

W. Stanley Jevons.

VI.—PHILOSOPHY IN THE SCOTTISH UNIVERSITIES. (II.)

The system of the Professoriate, as we have seen, followed that of Regenting in the early part of last century. Its distinctive feature is the specialising of the subjects of instruction, and essentially connected with this are the organisation and distribution of these among different chairs. The character of the Philosophical teaching, and the contributions to Philosophical literature, of the Scottish Universities during the last hundred and fifty years have depended on those two elements. Out of the division of subjects, two chairs arose in the Scottish Universities. The one was known as the chair of Logic, and was devoted to the topics of Intellectual Philosophy—embracing generally Logic, Psychology, and Metaphysics, and, in the cases of St. Andrews and Glasgow, Rhetoric as well. The other was called the chair of Moral Philosophy, and was regarded as embracing Ethics proper, Natural Jurisprudence, Natural Theology, and generally Political Economy. The one exception to this arrangement was Aberdeen. There was a chair of Moral Philosophy both in King's and in Marischal College, but there was no special chair of Logic until 1860, when it was instituted on the fusion of the two Colleges. Intellectual Philosophy was, however, to some extent taught by the Professors of Moral Philosophy. It will thus be seen that the sphere of each chair was sufficiently wide, even after the specialising. This comprehensiveness allowed the individual professor considerable latitude of choice as to which department he should most prelect upon; and, in the history of these chairs, this freedom has not been always helpful to the progress of abstract thought.

One of the earliest results of the change to the Professoriate was that Latin, as the language of instruction, was abandoned

for English. The teaching thus threw off the old conventionalisms and formal phraseology, and came into closer contact with everyday life and experience. It became freer and fresher in spirit, and drew inspiration from the general literature of the country, and re-acted on that in turn. In Glasgow, in 1730, Francis Hutcheson delivered his introductory lecture in Latin, and a very fine and fervid specimen of Latin composition it was. But he found the trammels of the old speech too hard for the modern spirit, and very soon, for the first time in the University, took to lecturing in English. Since Hutcheson's time, the spoken discourse of an hour each day has been the staple of instruction in Philosophy in the Scottish Universities. The power and influence of this mode of teaching must no doubt vary with the lecturer, and depend on his character, capacity, and vigour. That this can be very great, apart even from subsequent examination on the lecture, and what may be called tutorial exercise, is known to those who are familiar with the system. The influence, simply as lecturers, of Hutcheson, Adam Smith, and Reid in Glasgow; of Ferguson, Dugald Stewart, and Dr. Thomas Brown in Edinburgh, is well-known; and many in the present generation have felt the power of the well-knit, logical utterances of Sir W. Hamilton, and the freshness, ease, and grace of Ferrier. The interest and eagerness of the Scotch student, the large class, the sympathy of numbers, the readiness for hard thought, and the disinterestedness of feeling, are the elements on which the Professor is privileged to work. He has the opportunity, simply by the character of his prelections from the chair, of quickening and inspiring his students in philosophical studies, and giving them a connected, comprehensive, and systematic view of his department—such as can be accomplished equally well under no other arrangement. If he fails to do this, the fault is his own.

But the habit of mere lecturing is not now, and has not been, for a long time, the system of the Scottish Universities. We find it in full force in Germany and in France, and no doubt it has its advantages in leaving the Professor untrammeled by tutorial work, and free for the higher duties of his chair. In the German Universities, and the Hall of the Sorbonne, the greater part of the philosophical literature of Germany and France has appeared first in the form of spoken lectures. But the Scotch professor has not only to lecture daily—he has to teach as well. He does the work of the Professor proper and that of the Tutor besides. In all of the philosophical classes in Scotland, some hour or hours are set apart for oral examination, to say nothing of written examinations and essays.

As to modern philosophy in Scotland—its rise, method,

scope, and results, since the first quarter of last century until now, I am afraid the utmost compression, within my prescribed limits, will not enable me to do it anything like justice. This is true of it, as Cousin remarks, that it was born in the Universities, and fostered by them. And it would be difficult to find a parallel in any country in Europe for the degree of tutorial work and the fulness of independent research, done by the occupants of the two poorly endowed chairs of Logic and Moral Philosophy in the different Universities of Scotland during the last 150 years.

Remarkably enough, with the first man appointed to the professoriate in Glasgow, we have the commencement of independent investigation. This was Gerschom Carmichael, the first professor of Moral Philosophy, in 1727. He is regarded by some as the founder of what is known as the Scottish School. He was, at any rate, a fresh thinker and teacher—well read in the older philosophy, and yet alive to a new power and method of inquiry. Both by date and habit of thought, Carmichael may be taken as the connecting link between the Regenting and the Professoriate, between the old thought and the new. Born about 1672, he studied in Edinburgh, and became one of the Regents in St. Andrews. In 1694, he gained by public trial, as was usual at that period, the place of Regent in Glasgow. His main interest was in ethical studies, and when the professoriate was instituted in 1727, he was made professor of Moral Philosophy. In all the departments of Philosophy which he touched, there are signs of the new spirit. His *Breviuscula Introductio ad Logicam*, published before 1722, shows the influence of the logic of Port-Royal—especially in the distinction of Comprehension and Extension. He edited Puffendorf, with valuable notes—*De Officio Hominis et Civis Juxta Legem Naturalem*. The second edition is dated Edinburgh, 1724. The important advance which is made in this work is the subordination of Jurisprudence to Ethics, and the attempt to find a ground for human law by a method of observation and analysis of the facts and principles of human nature. His *Synopsis Historiæ Naturalis, sive Notitiæ de Existentia Attributis et Operationibus summi Numinis, ex ipsa Rerum Natura haustæ*, appeared in 1729—the year of his death. In this treatise, he objects to the demonstrations of Descartes and Dr. Samuel Clarke, refers to the proofs of design in the world, and shows generally that while he had still a hold of the expiring formalism of the time, he recognised the new or experimental method of founding inference on the observation of facts. The germs of fresh thought can hardly be said to have expanded greatly in Carmichael, but they were quickened into growth and fruitfulness in the mind of his pupil—Francis Hutcheson.

Francis Hutcheson (1694-1746) entered Glasgow College as a student in 1710, where he studied under Carmichael. He was the son of a Presbyterian minister in the north of Ireland. The family was originally, however, from Ayrshire. The son studied for but finally abandoned the ministry, his philosophical cast of thought and moral views finding little sympathy among the people of the Irish Presbyterian community. His theological leanings were to the "New Light" party. The authorities of the Anglican Church in Dublin tried to prevent his carrying on an academy there, because he had not subscribed the articles; and but for the friendly intervention of Archbishop King, a speculative thinker like himself, they would have succeeded. The exulting spirit of freedom and the feeling that he had at length got into his true sphere of work, pervade his inaugural address at Glasgow in 1730. During the 16 years in which he occupied the chair of Moral Philosophy there, he was a most powerful and attractive lecturer. He drew to the University numerous dissenting students from England and Ireland, against whom the native Universities were closed. His lectures embraced Ethics, Natural Jurisprudence, Politics, Economics, and Natural Theology, and breathed a strong spirit of that civil and religious liberty from the limitation of which both professor and students had suffered. Jealousy followed his distinction; and suspicion, prejudice, and bigotry, his freedom of speech. But Hutcheson was a man, and minded none of them. He has left the mark of his personal character and opinions on all the philosophical literature of last century. Hutcheson's moral teaching, and indeed the whole University teaching in Scotland that succeeded him, was inspired by a revulsion from the servile politics of Hobbes, and his ethics of self-interest. The gradually increasing results of the impulse are seen in the lectures and writings of Smith, Reid, Ferguson, and Stewart. Smith, Ferguson, and Stewart especially, connect themselves directly with the advanced views of civil and religious liberty which animated the young statesmen of the Whig party who laboured for those ends up to 1832. Stewart, in particular, by his lectures on Political Economy in the early years of the century, diffused and popularised the views of Smith, and recommended them to such pupils as Palmerston, Lansdowne, Lauderdale, and Russell.

The influence of Carmichael is manifest on the whole cast of Hutcheson's thought; and Hutcheson, more than any other, was the forerunner of the Scottish School. The progress from Locke to the later forms of doctrine can easily be traced in his writings. He accepted Locke's theory of the origin of knowledge; and he never to the end attacked it in principle. In him the psychological method, the reflective analysis of con-

sciousness, became more marked, and more minutely applied. He still keeps by the notion of Sense as the inlet of ideas and feelings. He recognises the External Senses and the Internal Sense, or Sensation and Reflection of Locke. With regard to the former, however, he shows that there are ideas accompanying sensations proper, *viz.*, duration, extension, and number, which are not, strictly speaking, sensations, for they belong either to a plurality of senses or equally to the external and the internal senses. This was an anticipation of Reid's subsequent analysis of Perception, and of Kant's forms of space and time. Hutcheson also finally gave up the hypothesis of representative ideas, and leant to the Berkeleyan doctrine of sensations, as signs of causal power. And he finds also that there are other senses besides these—called Reflex—which are the sources of specific feelings. Among these is the sense of Beauty and that of Goodness. Sensation and Reflection, therefore, are not the only sources of human knowledge. Hutcheson's moral theory was very much influenced by that of Shaftesbury. It is not sufficiently analytic in ground, nor extensive in grasp. Sense is an objectionable word for a new source of ideas; it tends to make feeling the ground of judgment, and gloss over the real difficulties in an ethical theory. Its vagueness and evil effects are seen in the *Theory of Moral Sentiments* of Hutcheson's pupil, Adam Smith. Then it is impossible to resolve as Hutcheson does all virtue into a beneficent motive as the principle and public good as the quality. But the fervour of the man and, on the whole, the noble, elevating, and refining character of his ethical views, were of great value and influence in an age that was painfully working out from the not very inspiring consequences of the systems of Locke and Hobbes. In Hutcheson's compend of Logic and synopsis of Metaphysic, moreover, there are more questions and points in common with the logical and metaphysical discussions of Sir W. Hamilton than any other treatise in Scottish philosophy from the time of the former to that of the latter.

Hutcheson's first work, the *Inquiry into the original of our Ideas of Beauty and Virtue*, inaugurated another line of speculative thought in Scotland. It was one of the very earliest modern treatises on the subject of Aesthetics. Appearing in 1725, it preceded the treatise of the Père André in France (1741), and that of Baumgarten in Germany (1750). It was the forerunner in Scotland of some very important and valuable discussions of the subject. One of the pupils of Hutcheson caught the impulse and the spirit of his aesthetical inquiries. Adam Smith, a Glasgow student and a Snell Exhibitioner at Oxford, returned from the English university in 1748, at the

age of 25, and began his public career by giving lectures on Rhetoric and Belles Lettres in Edinburgh. These formed part of the material which he afterwards used in his brief occupancy of the Logic Chair in Glasgow,—1750-51. They were posthumously published under the title of *Philosophical Essays.* The taste for aesthetical inquiries thus awakened led to the foundation of the Chair of Rhetoric in Edinburgh, 1762. It was first occupied by Dr. Hugh Blair, whose lectures, afterwards published, are well known to the world. This form of investigation has received great attention in the Scottish universities, since Hutcheson gave it an impulse. It was prosecuted in Aberdeen in last century by Alexander Gerard, Beattie, and Principal Campbell. The subject has occupied a place more or less prominent in the teaching and writings of Reid, Stewart, Brown, and Hamilton.

There is, however, another name besides those of Carmichael and Hutcheson, which has been too greatly neglected in the early history of Scottish speculation,—viz., that of George Turnbull, Professor of Philosophy in Marischal College and University, Aberdeen. Turnbull had a very direct influence on Scottish thought, for he was the master of Reid, and there can be no doubt that Reid got from him much that is distinctive in his method and system. Turnbull has been cursorily referred to by Stewart and Hamilton, but it was Cousin who, in his most painstaking and interesting history of the Scottish Philosophy, first did justice to Turnbull and his influence on Reid. Turnbull was born in 1698, and graduated at Edinburgh in 1721. In the same year he was appointed a Regent in Marischal College; and in 1726, the last on the list of the candidates whom he presented for laureation was Thomas Reid. Turnbull resigned his regency in Marischal College in 1727, and thereafter seems to have travelled on the Continent of Europe as tutor to young Wauchope of Niddry. He was among the first to apply to the contents of consciousness the method of observation and induction, which had been employed with such brilliant results in the natural sciences. Abjuring abstract metaphysics in word and method, he substituted moral philosophy as the name of the new line of inquiry. At the same time, he regarded reasoning and deduction as perfectly legitimate in moral philosophy, provided the principles were first of all formed by a study of consciousness. Immediate principles of common sense were recognised by him; and a fact guaranteed by these, such as freedom of volition, was held as superior to abstract reasoning. To hypothesis and deduction from it, he was especially averse. He has analysed the fact of association with remarkable ability; and shown even by this example alone the utter misconception

of those who suppose that the reflective method of the Scottish thinkers means merely the acceptance of facts of experience in their totality and complexity, and does not involve thoroughgoing analysis. The two principal works of Turnbull are:—*The Principles of Moral Philosophy; an Inquiry into the wise and good government of the Moral World*, London, 1740. The other is the fruit mainly of his foreign travels:—*A Curious Collection of Ancient Paintings*, London, 1744. Turnbull owes much to Hutcheson, which he frankly acknowledges; he refers also to Shaftesbury and Pope; he is familiar with the new physical views of Newton; he is full of the modern spirit of inquiry; and there is withal a remarkable vein of originality and freshness in his speculative investigations. But for the fact that he left Scotland at an early age, and seems never to have returned, his writings would have been long ago recognised as an important and influential element in Scottish thought.

The ancient practice of Disputation had fallen into desuetude in the Scottish Universities generally towards the middle of last century. In itself it was useful, as a means of self-action; but its tendency in the long run is no doubt to conventionalism in phrase and argument, and thus to a deadening rather than a quickening of intellectual effort. It was probably, however, a feeling of the real want, which the practice had no doubt supplied, that led, in connection with certain of the Scottish Universities, in the first quarter and middle of last century, to the rise of Voluntary Debating Societies. These were formed in some cases by students attending the University, and in others, by young men who had passed through their course. The earliest association of this kind arose in the ancient University of St. Andrews. There, about the end of the 16th century, a society of students was formed, for literary and philosophical purposes. They had no fixed place of meeting; but along the east sands of the pleasant bay, or among the fields rising to the south, which overlook the spires and towers of the grey city by the sea, they wandered free as the thoughts which moved them, discussing classical and speculative points. One of these lads afterwards made a name in history as Thomas Young, the tutor of Milton. This says something for classical Latinity in Scotland in the 17th century.

Since then, housed and encouraged by the Universities, these private societies have supplied the place of the old academical disputations—they have developed latent talent, they have trained their members to readiness and fluency of speech, and to self-command and self-development; they have taught young lads to find their level, and to know their practical powers. Many distinguished men, as Principal Robertson, Dugald

Stewart, Lord Brougham, Thomas Brown, Sir James Mackintosh, Lord Jeffrey, Francis Horner, Lord Cockburn, and others, have emphatically acknowledged their obligations to this early discipline. They were in fact, as has been well said, "able to perform their part in the drama of life with greater ease and success, in consequence of this early rehearsal".

The writings of Berkeley, on their publication, made less impression in England than might have been looked for; but in Scotland, they at once attracted attention. In Edinburgh, a society of young men, chiefly connected with the University, was formed, for the express purpose of studying them, and of soliciting explanations from the author of obscure points in them. Among other members, were the Rev. Dr. Robert Wallace, author of a *Discourse on the Numbers of Mankind*, and John Stevenson, afterwards Professor of Logic in the University. It was called the Rankenian Club, and out of it the Royal Society of Edinburgh is said to have taken its rise. The date of the Club seems to have been from about 1718 to 1724.*

The Rankenian Club was succeeded by several other societies, partly philosophical and partly literary. There was the society of which Principal Robertson, Wilkie, the author of the *Epigoniad*, and John Home, the author of *Douglas*, were members. There was the Select Society, of which Allan Ramsay, the poet, was founder, in 1754. The Speculative Society arose in 1764. Dugald Stewart was an active member of it from 1772-75. When a lad, in Glasgow, attending the lectures of Reid, he was a member of a College Society there. Before it he read an essay on Dreaming, the first philosophical essay he ever wrote. A revised draft of it seems afterwards to have been read before the Speculative Society, and out of it, he tells us, his whole subsequent speculations on the mind took their rise. Whenever there was any quickened life in the University, there seems to have been an impulse to associations of this kind. Two years after Sir W. Hamilton was appointed to the chair of Logic in Edinburgh, a society of young and ardent students arose, numbering as members several names afterwards known in philosophical literature.†

But the Philosophical Society of Aberdeen was the most remarkable and the most influential on the speculative thought and literature of the country. It was founded in the beginning of 1758, it continued in vigour for several years, and finally

* Stewart's *Life of Robertson*, and Fraser's *Berkeley*, Vol. IV., p. 224.

† Among others, A. C. Fraser, now Professor of Logic in Edinburgh, John Cairns, now the Rev. Dr. Cairns, Professor of Theology in the United Presbyterian Hall, John Clarke, a student of great promise, who died young.

ceased in 1773. The original members were Thomas Reid, Regent in King's College, George Campbell, of Marischal College, John Stewart, Professor of Mathematics in Marischal College, Dr. David Skene, Physician in Aberdeen, Robert Trail, and Dr. John Gregory, 'Mediciner,' or Professor of Medicine in King's College, afterwards of Edinburgh. Reid appears to have been the founder, and was the first secretary. The rules are in his handwriting. To the original members were added—Professors Alexander Gerard (of Moral Philosophy, Marischal College, 1752-1760), Beattie, Thomas Gordon, George Skene (Moral Philosophy, Marischal College, 1760-1787), William Ogilvie, James Dunbar, William Trail, John Farquhar, Minister of Nigg, and John Ross, of Banff Castle. The constitution, which was probably drafted by Reid, is very curious. Philosophy alone is to be the subject of discussion and essay—to the exclusion of Grammatical, Historical, and Philological questions. Philosophy is explained as comprehending "every principle of Science which may be deduced by just and lawful induction from the phenomena either of the human mind or of the material world; all observations and experiments that may furnish materials for such induction. The examination of false schemes of Philosophy and false methods of philosophising; the subserviency of philosophy to arts; the principles they borrow from it, and the means of carrying them to their perfection." This was the explicit statement of the new method of philosophy in the country, and might be taken as the motto to the whole subsequent works of Reid. The business consisted of debates and discourses on subjects prescribed. The first discourse was by Mr. Robert Trail, entitled "An abstract of a discourse by Mr. Rousseau on the Source of the Inequality among Mankind, with some observations upon it". The next was by Principal Campbell, "On the Nature of Eloquence, its various species and their respective ends". This and three other discourses became chapters of the Philosophy of Rhetoric, published in 1776—the work which first widened the view of the science so as to meet modern requirements. Reid gave in the first year (1758) a discourse "On the Philosophy of the Mind in general, and particularly on the Perceptions we have by Sight". Subsequently Reid gave a discourse "On the Sense of Touch," and one "On Euclid's Definitions and Axioms". He is also referred to as giving a discourse which was not entered, as was the practice, in the Records of the Society, as he is to send it to the press, along with other discourses which he had read before the Society. In 1763, he gave a discourse "On Perception".* The *Inquiry into the*

* I am indebted to Professor Bain for notes taken from the Minute

Human Mind—the first, the freshest, and most original of his works—which doubtless embodied those discourses or their results, appeared in the end of 1763. Gerard, among other subjects, gave "The Nature and Varieties of Genius" (1758), and "The proper subjects of Demonstrative Reasoning". Beattie takes up "The Characters of Poetical Imagination," and "The Difference between Common Sense and Reason". Their subsequent writings bear traces of these special studies and discussions. Out of these society-papers came the two works of Gerard—the *Essay on Taste* (1759), and that *On Genius* (1767). These show a very meritorious study of the *Poetics* and *Rhetoric* of Aristotle, and an appreciation of Aristotelian principles, which no other writers, save Harris and Monboddo, evinced in the last century. Beattie's *Essay on Truth*, not certainly remarkable for its speculative insight, appeared in 1770. His essays *On Poetry and Music* were published in the same year with Campbell's *Rhetoric;* and his *Dissertations Moral and Critical* appeared in 1783. No student of æsthetics, or of the progress of culture in Scotland, should pass by without careful attention the critical essays of Gerard and Beattie.

While fresh speculative thought was thus active in Glasgow and Aberdeen, the Universities of Edinburgh and St. Andrews showed little or nothing of this new influence. Colin Drummond, who had been one of the Regents, was the first professor in Edinburgh (1708-30), and continued very much in the old line. John Stevenson succeeded him, and occupied the chair until 1775. Stevenson was probably the first to introduce the then novel principles of Locke into university teaching in Scotland. But his course embraced a great deal more than was represented by Locke. He made use of text-books as the basis of his teaching, and, besides Bishop Wynne's *Abridgment of Locke's Essay*, these were, in Logic and the History of Philosophy, the *Elementa Philosophiæ Rationalis et Moralis* of Heineccius (1680-1741), for some time Professor of Philosophy at Halle; in Metaphysics, De Vries's *Determinationes Ontologicæ;* in Rhetoric, Aristotle's *Poetics* and Longinus *On the Sublime*. Stevenson continued the mediæval practice of oral disputation in the class. He represents the transition period between the old and the new teaching. His influence was most marked in the department of æsthetics and the cultivation of literary taste. Principal Robertson, one of his students, acknowledged that he was more deeply indebted to Stevenson's instructions, especially his illustrations of Aristotle

Book of this Society; and since I received the notes, the Minute Book itself has been most obligingly sent to me for examination by its possessor, Dr. John Webster of Edgehill.

and Longinus, than to any other influence in the course of his academical studies.* Stevenson published nothing in Philosophy. The only work that emanated from a Scottish Professor in last century which showed distinctly and almost exclusively the influence of Locke, was the *Elements of Logic*, by William Duncan, Professor of Natural Philosophy in Marischal College, Aberdeen, from 1753 to 1760. John Bruce (1775-86), the successor of Stevenson, adhered closely to the inductive method and spirit; in fact, more exclusively so than his predecessor. He published *First Principles of Philosophy, for the Use of Students*, 1777; *Elements of the Science of Ethics, on the Principles of Natural Philosophy*, 1786. James Finlayson (1786-1808), was an able man, but he published nothing in Philosophy. Dr. David Ritchie's occupancy of the chair (1808-36) was the dead time prior to Hamilton. In the Logic chair in St. Andrews, Robert Watson (1756-78) and William Barron (1778-1804) lectured chiefly on Rhetoric. It was not until the time of William Spalding (1845-60) that Psychology and Logic assumed their proper places in the course, under an able and most painstaking professor. In the Moral Philosophy chair, Edinburgh shows nothing of importance until the time of Adam Ferguson (1764-1785). His occupancy of the chair corresponds to a great extent with the period of Reid in Glasgow, and he must be regarded as an independent power in philosophical literature and in promoting high academical teaching, especially in Ethics and Politics. On the question of the origin of knowledge, he did not in theory advance beyond Locke. In Morals, however, he went beyond not only Hobbes but Shaftesbury and Hutcheson in recognising, besides self-interest and benevolence, the principle of Development and Perfectibility. He published in 1766 *An Analysis of Pneumatics* (Psychology) *and Moral Philosophy.* His *Institutes of Moral Philosophy* (1769) and *Principles of Moral and Political Science* (1792) contain passages of high and well-sustained eloquence. Ferguson and Adam Smith are probably the best types, in Scotland in the last century, of culture and style formed on a classical model. Ferguson's *Essay on Civil Society* (1767) examines the questions of the origin, end, and form of government, and vigorously assails the opinions of Hobbes.

Turnbull's teaching was over before there appeared (1739-1740) the famous *Treatise of Human Nature*, round which has centred all the deepest and most exciting thought of modern times. But we have evidence, in the topics of the Aberdeen Philosophical Society and in his letters, that Reid was alive to the issues raised by Hume, and was studying

* Stewart's *Life of Robertson. Works*, Vol. X., p. 105.

these in the quiet seclusion of his country parish before he was called to be Regent in King's College in 1751. Reid was the first Scotchman who truly appreciated the breadth and the bearing of the principles of the *Treatise of Human Nature.* The scattered lines of speculative effort in the minds of thinking men were gathered into one by him during the course of his lectures in the Moral Philosophy chair in Glasgow (1764-86), and the results of his reflection were finally embodied in his *Essay on the Intellectual Powers* (1785) and *Essay on the Active Powers* (1788).

Scottish Philosophy, so far as it was a purely native growth or attempt to answer philosophical questions from its own resources, turned, from Reid's time, on three points *viz.*, Sensationalism (with Representationalism), Idealism, and Negationalism or Scepticism. The first was for it represented by Locke; the second by Berkeley; the third by Hume. There might be a question as to how far each of these names was properly identified with the associated doctrine. But historically for the Scottish speculators, Locke represented the first point, Berkeley the second, and Hume the third. And it seems to me that it was substantially correct so to connect those names, although Locke undoubtedly put reflection alongside of sensation, and Berkeley may be interpreted as holding something not unlike Natural Realism in its phenomenal form, and although it may be a question as to whether Hume's basis was absolute or hypothetical, and his doctrine therefore Negationalism, or simply Scepticism. The Representationalism of Locke readily developed into the Idealism of Berkeley. He had only to cut off the thing represented, by showing that it was impossible to know it on the theory. The Sensationalism of Locke and the Idealism of Berkeley developed in the hands of Hume into a Negationalism or Scepticism which left the simple impression of Sensation the sole reality in the universe. The impression neither had cause in an outward, nor subject in an inward world. The Universe meant merely a series of impressions, utterly isolated but for casual conjunction found to be constant. The external world, the Ego, Cause, Wisdom, Deity, all disappeared as illusions of the fancy; they were subjectively unreal, therefore objectively empty, and inapplicable as notions to experience.

One form of answer distinctively made to Hume in Scotland consisted in a protest against the extreme consequences of his system. It lay almost entirely in an appeal to the general or universal in the ordinary experience and belief of mankind—as to material reality, personality and identity, cause, freedom, and Deity. These were alleged to be objects of common belief or common sense, to be practically recognised by all, by

peasant and sceptic alike, and to be irresistibly accepted as realities. This answer may be taken as represented by Beattie and Oswald; only very partially, if at all, by Reid and Stewart. If it be offered as a complete or final answer to Hume, it is inadequate. For he recognises these beliefs as facts in our experience, and he proposes to show that they have no ground in knowledge, and also how, as illusions of the consciousness, they grow up in that experience. We must do more, therefore, than simply protest that they exist, or that they are in our experience. But the statement of these beliefs is quite competent to this extent, that they are the materials of the speculative question, that which it is called upon thoroughly to analyse and definitely to explain—or, if they be represented as illusions, clearly to show that they are so, and how they are so. No speculative theory can be accepted as adequate which simply over-rides the universal or even the general convictions of human experience. And as Hume includes under impression, not only sense-impressions, but passions, emotions, desires, volitions, "on their first appearance," it might very fairly be urged that he has no right, apart from a more definite analysis and proof, to regard all these so called impressions as of the same nature with sense-impressions. It would be perfectly competent for a critic to say—'I find more in emotion and in volition than you profess to find in the simple impression of sensation, and I deny your right to class or slur those together merely because they are not the reflex of some idea or copy of a sense-impression'. This would open an almost illimitable field of intellectual, moral, and religious experience; it would be as wide as any individual sentiency could reach to; and it would probably show that this basis of impression is, as put by Hume, altogether vague and useless. When this first somewhat rough position of what is often ignorantly named the Common Sense School became more philosophical, it was found that the analysis of the facts called impressions by Hume, according to his own method of reflection, really became an important battle-ground.

Another possible answer to the doctrine might have been to show that, admitting the ultimate in knowledge laid down by Hume, the consequences do not logically follow from it, that we yet may and do know the objects which Hume professes to show we cannot know, on the basis of his assumption. This answer Reid did not attempt and he showed his sagacity in not doing so. But even on this point Reid has in a way suggested, and legitimately, that the requirements of Hume are self-inconsistent or contradictory; and the principle of Non-Contradiction Hume himself must and does admit. For he assumes not only

a single impression of sensation, but a series or succession of impressions, that is, of consciousnesses. If human knowledge be the conscious impression of each moment of time, how can the second or different conscious impression know anything of the first impression, or know anything but itself, if it be a self? If knowledge be restricted to each successive moment, how can there be a knowledge of a series or succession at all? If not, how can there be a knowledge or experience of uniformity in nature—the great point which, according to Hume, requires to be accounted for? Why should we fall back on custom or habit to account, forsooth, for that which, on the conditions of knowledge laid down by Hume, cannot be known, and cannot, therefore, be?

But Reid's main reply to Hume is, that his analysis of experience is imperfect, one-sided, exclusive. Reid has said that sensation or impression is not alone in experience or consciousness, as Hume alleges. He has challenged the fulness and the accuracy of Hume's analysis of experience, "perceptions," or consciousness; and he is as much entitled to say that there are other elements in consciousness, as Hume is entitled to say or assume that there is but one element in consciousness. Reid, in making his statement and exhibiting his analysis, is as philosophical in method as Hume is. The result is a matter of testing by reflection—the ultimate court of appeal. But Reid's allegation is that Hume's basis is inconsistent with the facts to be found in the same quarter and by the same method as Hume himself resorts to and uses. And he has a perfect right, philosophically, to this method of answer. Thus, for example, Reid would say 'Sensation is a mere abstraction. It is not found alone; it cannot form a real basis. It is inseparably associated with a self or person—a sentient subject. It is wrong, therefore, first of all, to disassociate these, and impossible thereafter to conjoin them.'

Hume sought to destroy the reality of certain objects—personality and Deity—through the destruction of the possible conceptions of them. Reid is usually represented as "protesting" that we believe in these things—that all mankind does so—and, therefore, that this belief is a guarantee of their truth. Reid's protest was, when fairly interpreted, no such thing. He protested merely to this extent—that common or universal belief is not explained or satisfied by the results of Hume's hypothesis or basis. He quite admitted the contradiction between sense and reason, which Hume had created; but he did not merely allege the sense-side against the reason and rest there. This led him to analyse the experience which Hume says had been analysed, and to show that its essential elements had been overlooked.

Reid's argument, therefore, is that on such a point as personality or identity, Hume has not destroyed its objective reality by proving its subjective emptiness, for the notion is given along with is, the basis of even the impression which Hume says is the whole in experience. This may be taken as the first stage of Reid's reply to Hume. It is the one represented by Reid's first treatise the *Inquiry*. It amounts to saying and showing that there are certain principles or laws of intelligence which logically condition the so-called only sources of knowledge—sensation and reflection—recognised by Locke and Hume; and this is a perfectly competent and legitimate mode of answer. It only requires to be made out.

The second and advanced stage of the answer is that represented in the *Essays on the Intellectual Powers* (1785), in which he explicitly lays down the test of necessity,—as the criterion of what is original and what is empirical. Here no doubt his analysis of the principles thus supposed to be found is far from being above criticism. His two lists of the principles of contingent and necessary truths are not well marked off from each other. But the lists afford the impartial basis at least of a more thorough-going analysis and systematic arrangement. Such is Reid's position, and we see how little ground there is for the assertion that, while Kant "demonstrates" his philosophy, Reid merely protests against conclusions. The truth is Reid does nothing less or more in this respect than Kant does or can do. Reid points to universality in knowledge; and he ultimately grounds it in necessity of thought. And what is Kant's position in the matter? In the first part of the *Kritik* he supposes elements in knowledge, not given by experience. But he has and can have no "demonstration" of this assumption. How does he establish *a priori* elements? In this way:—the senses, taken by themselves, give us only the particular and contingent. If there be universal and necessary elements in knowledge, then these are furnished not by Sense but by Reason. That such elements exist is proved by reference to certain sciences, and also by reference to our consciousness. And it can be shown that without connection and relation, the data of sense would not constitute knowledge as we find it. The connection or relation, therefore, is the condition of the possibility of experience or knowledge. Now obviously universality must be grounded on necessity; and how is necessity to be tested except by reflective analysis, an appeal to what we can or cannot reverse in thought? But where in such a case is the demonstration of the system, and wherein does it differ from Reid's position? How can I distinguish the contingent in Sense from its opposite, the necessary in Reason—unless I

assume the distinction of contingent and necessary as already in knowledge? In no way whatever; and it is not a demonstration to an associationist. It is to him a piece of mere dogmatism. Kant not less than Reid must simply fall back on an ultimate reflective necessity,—both analytic and synthetic,—both logical and metaphysical. Both these necessities are essential to any *a priori* synthetic act; for the subject must in the first place be kept identical with itself by a logical necessity, and the predicate must be added to it, in the second place, by a metaphysical necessity. This test is always supposed, and supposed in fixing the conditions or possibility of any judgment *a priori*, whether analytic or synthetic. The truth is that demonstration in metaphysics, in any proper sense of the term, is a vain dream.

Part of the repugnance to the writings of Reid is due to a certain aversion to the moral spirit which characterises them. Reid is strongly dogmatic. He has no sympathy with any but a disinterested ethical theory, whether of desire or duty, or with theories of fatalism or materialism in any form. And he is content virtually to say, 'I am prepared to show that the objections before me to the common dicta of mankind and of consciousness on those points are unfounded; at the same time I cannot give, and do not think there can be given, a reasoned-out theory of them'. Now this is a state of mind in which the moral interest is stronger than the intellectual. It is content to accept what it cannot demonstrate. This is a mood which is excessively repugnant to the upholders of a complete demonstration of human knowledge and beliefs—of a reasoned philosophy—and it is particularly repugnant to the hangers-on to the skirts of such systems, who in the zeal of an intellectual flippancy set little store on moral interests. It might be suggested to such people that a 'reasoned-out' system of philosophy, whether speculative or moral, is not reasoned out until it is proved; that the pretence of demonstration and a restless intellectual turning round and round do not necessarily betoken strength, and are but poor substitutes for cautious observation and circumspect analysis.

Dugald Stewart succeeded Ferguson (1785-1810). Through him the influence of Reid, whose pupil he had been in Glasgow, was extended to Edinburgh. Stewart's position, as to some extent developing and illustrating the main doctrines of Reid, is well known. His power and eloquence as a lecturer, his fine psychological analysis, his refined, though somewhat formal and repressed, style of writing are characteristically his own.*

* See his *Collected Works* in Ten Volumes—edited by Sir W. Hamilton—with Memoir and Supplementary Volume, &c., by the present writer, 1858.

Thomas Brown (1810-1820) succeeded Dugald Stewart. Brown occupies an intermediate position in relation to the philosophy of his time. Accepting to some extent the doctrine of intuitive principles, the main line of his thought is yet of the associational type. Condillac and De Tracy, whose opinions had been formulated by Dr. Young of Belfast, were the foreign influences which determined on many points almost literally the views of Dr. Thomas Brown. He first made a reputation by the *Inquiry into the Relation of Cause and Effect* (1804), in which he adopted the view, meagre and insufficient as it is, of uniformity of sequence as identical with causality, and endeavoured to show that the consequences charged on this doctrine as held by Hume, were not well founded. His *Physiology of the Mind*,—an imperfect book,—appeared in 1820, and his *Lectures on the Philosophy of the Mind*, after his death, in 1822. Brown's views have formed very much of an episode in the course of speculative thought in Scotland; and, with all his subtlety and diffusive eloquence, it would be difficult to vindicate for him any place except that of an illogical disciple of Hume.

There were but two men in the Scottish Universities over whom Brown had any influence. The one of these was Dr. Thomas Chalmers, Professor of Moral Philosophy in St. Andrews (1823-28). Chalmers was naturally a powerful lecturer. As a speculator he shows the unreconciled influences of Brown and Butler. Patrick C. Macdougall, Professor of Moral Philosophy in Edinburgh (1853-68), was influenced mainly by Brown and Chalmers. His fervour, eloquence, and subtilising power as a lecturer—often too minute to the student not capable of prolonged attention—will not soon pass from the memory of his auditors. Nor can an old pupil omit a passing reference to the power with which John Wilson, Professor of Moral Philosophy in Edinburgh (1820-1853), though not connected with any school, could stir the feelings of his students. Some of his analyses were very remarkable—particularly that of Imagination; and speaking from the memory of twenty-seven years, I regret that these lectures have not been given to the world.

Until the time of Sir W. Hamilton, philosophical thought in Scotland may be said to have been purely a product of the soil. Brown no doubt borrowed largely from De Tracy, but his writings cannot be said to have had a paramount influence in the country. It was Hamilton who first changed and widened the conception of the problems of philosophy, while still keeping scrupulously to the method in use. The two foreign influences which moulded Hamilton's thinking mostly were Aristotle's *Organon*, and Kant's *Kritik of the Pure Reason*.

From the articles of Hamilton, in the *Edinburgh Review*, on Cousin's Philosophy (1829), the Philosophy of Perception (1830), Logic (1833), Speculation in Scotland was led to look at the old problems from entirely new points of view, and to speak in a nomenclature formerly unheard, and so technical as to be utterly unfamiliar to the readers of the older writers. The thought and language were more precise, finished, and greatly more abstract than any known before in Scotland. The essay on Cousin put a question regarding the reach and limits of knowledge, which had not been put speculatively before; that on Perception raised much wider issues regarding the authority of the grounds of knowledge than had been previously discerned as involved in it; and the discussion on Logic placed the science on a basis which had not been possible through any previous line of analysis in Scotland. The whole philosophy of Hamilton was comprised in general in those contributions to the *Review*. His labours on Reid, his *Discussions* and *Lectures*, cannot be said essentially to go beyond the lines of thought there laid down. Indeed, except on the object in perception, there is no real change in his subsequent writings; and his latter view on this point could, were there space at present, be shown to be in no way incompatible with his earlier position.

As to method, Hamilton made it perfectly clear that that of Speculation is reflective observation and analysis. While retaining and vindicating the phrase Common Sense as a name for the universal in Consciousness, he shows that this is not proposed as Philosophy, nor as the method of Philosophy; it is the material upon which a purifying analysis works. There is "no appeal to the undoubted beliefs of the irreflective many," but "a critical analysis of these beliefs". And this common consciousness, sifted through all its forms, is that with which in the end philosophy must be found in harmony, or show reason for its divergence. The method of the school, therefore, seeks in a word only the original data of consciousness—all of them—and these in their integrity and relative place. It thus affords scope for any reach of analysis and evolution, however far back it may go; but, what is no less important, keeps in view the actual and matured state of consciousness in its complex filling or content.

If Reid vacillated between universality and necessity as tests of ultimate truth, Hamilton made it perfectly clear that in his view the latter was primary and essential. The ultimate truths of Reason are with him guaranteed by the logical unthinkableness of their opposites; the ultimate truths of fact, still called necessary, are regarded as subject to possible doubt as to their truth, but not as to their existence. And this doubt is even

supposed in the end to be corrected by the law of Non-contradiction. * It is here that Hamilton connects himself with foreign speculation. Descartes in reaching the absolutely indubitable had found it in self-consciousness, which guaranteed itself simply in preserving its consistency. But Descartes did not explicitly state the principle of the guarantee. This is the law of Non-Contradiction, that preserves for us a given datum or content—a datum realised in conscious thought, and shows it to be by our thought indestructible. But beyond or above consciousness Hamilton holds it impossible to go. The question—How is consciousness possible? he holds to be incapable of solution, as demanding the impossible condition of another and higher consciousness than ours. The furthest back point in reflection is for us consciousness, as revealed in a co-existing self and not-self; and if it be asked how a self can be conscious of a not-self, or how an unextended subject can be conscious of an extended object, his answer is, that, as an ultimate fact ascertained by critical analysis, it is both unnecessary and impossible to show how it is so, and further, that it is as impossible to show how we are conscious that we think at all, or know anything whatever, as it is to show how we perceive the not-self. In fact, with Hamilton, Philosophy ultimately means the co-ordination, and to a certain extent subordination, of the primary contents of consciousness in a harmony which excludes the self-contradictory.

The question as to *how* we perceive the material or extended is still raised as an objection to the doctrine of Natural Realism. It does not seem to be considered that the point is first of all a question of fact, and that the fact is to be decided according to certain tests or criteria. I admit that it would be a fair line of argument to attempt to show that what is called extension or spatial co-existence is simply a form of succession in time, say of muscular sensations, and hence that externality, as understood by the Realist, is merely, after all, an illusion. This has been essayed by De Tracy, Brown, the two Mills, and Professor Bain; as, I think, without effect—though I cannot now criticise the arguments. But the question of explication in the sense demanded is a wholly secondary point, and may not be of the slightest consequence in the discussion. And what are we to say of such an objection on the part of a philosophy which first of all denies that there is any pure or mere mental act, that the physiological and the psychological are inextricably fused, and at the same time holds it to be impossible and contradictory to know an independent material reality, because the notion of a material thing is a mental state,

* See Reid's *Works*, p. 754, § IV., 3.

and because such an object can be known only in relation to mind? So far as Hamilton is concerned, he never speaks of any material reality that is not in relation to mind; and as for the knowledge of a material object being a mental state, he would never have dreamed either of disputing it, or of admitting that it entailed any consequence of the kind alleged. But how, if there be no purely mental state at all—can the difficulty of fusing matter and mind occur? The proper objection on such a system would be not that mind cannot know matter, but that there is no mind—only a synthesis or fusion of mind and matter —to know, that in fact matter is known as mind, and mind known as matter, as reciprocally convertible experiences.

The other main feature in the philosophy of Hamilton is its doctrine of the Infinite and Absolute. His negative theory on this subject comes directly out of his fundamental position that neither thought nor consciousness can transcend the relation between the knower and the known, *i.e.*, his theory of subjective relativity, and that in the object known there is always a plurality of relation, *i.e.*, his doctrine of objective relativity. Both these points he recognises most firmly, and these are the kinds of relativity which regulate his whole thought on the subject of Infinite and Absolute. He would most thoroughly have repudiated his critic J. S. Mill's "substantial" doctrine of relativity, *viz.*, that knowledge is only or mainly relative when it is held to be an impression on the mind from an unknown object or world. This Hamilton would have regarded as not properly a doctrine of relativity at all, inasmuch as the knowledge given in self-consciousness is possible apart from it, and he would have repudiated it further as based on the wholly illegitimate and improbable hypothesis of an existing yet unknown and unperceived cause of impressions. And as to two objects being necessary to knowledge, Hamilton has, with the requisite limitations, laid this down both on the subjective and objective sides of knowledge,—both in his dualism of subject and object, and in his doctrine of intrinsic relation in the object known.* Mill was strong in the sphere of what Bacon would call the *axiomata media;* but he has hardly come face to face with the higher questions of speculation as stated by Hamilton; and, I venture to think, he has misconceived the essential doctrines of Hamilton's philosophy.

I cannot do more than refer to the development and application of Sir W. Hamilton's doctrine of the Infinite to theology, which Mansel essayed in the famous *Bampton Lecture* of 1858.

* Compare appendix to *Discussions*. On this and some other points the reader may be referred to the appendix to the *Memoir of Sir W. Hamilton*, by the present writer.

This, and other criticism of Hamilton's theory by Professor Henry Calderwood, in his *Philosophy of the Infinite* (1854, 3d edition, 1872), would carry me far beyond present limits. * I can only now say that I think Mansel's development and application of Hamilton's views questionable, and that Professor Calderwood's criticisms, however acute, seem to me not to touch the essential points in Hamilton's doctrine of our knowledge of the Infinite. How far and in what way our fundamental intellectual and moral conceptions are rationally predicable of an Infinite Being, is the unsolved problem of Metaphysics.

From the middle of last century down to a date well past the first quarter of the present, the important branches of Logic, Deductive and Inductive—especially the former—were imperfectly treated in the Scottish Universities. The Experimental Method of Inquiry, as it was called, which, through the precept of Bacon and the practice of Newton, had become dominant in Britain, greatly affected the habits of thought in last century in Scotland. Its results were so great and brilliant, and its promise so high, that there was an unreasoning reaction against Deductive Logic. This was, unfortunately, shared in by the leaders of abstract thought at the time. Even Reid, though he has left us a very intelligent abridgment of the *Organon*, could sneer at "the syllogistic art" as a mechanical mode of reasoning by which in all cases truth and falsehood might be accurately distinguished.† This echo of the crudities and puerilities of Locke on the subject was caught up by Dugald Stewart, who seldom loses an opportunity of speaking disparagingly of "the logic of the schools". Owing to a current of opinion of this sort, Logic, as a science and organic branch of Mental Philosophy, ceased to be studied in the Universities of Scotland. It was treated in a cursory manner as an intellectual curiosity which had enjoyed the attention of men in "the dark ages," but which must give way to new and fresh studies conducted by the advanced intellects of the time. And what was the substitute for this in the chairs of Logic? Let us take Glasgow as a sample, and it is a fair one of the other Universities. With the appointment of James Clow to the Logic chair there in 1752, we had the beginning of the new and improving themes. "He dedicates, we are told, the greater part of his time to an illustration of the various mental operations, as they are expressed by the several modifications of speech and writing, which leads him to deliver a system of lec-

* Dr. Calderwood, who was appointed to the Chair of Moral Philosophy in Edinburgh in 1868, is also the author of *Handbook of Moral Philosophy* (1872).

† *Statistical Account of the University of Glasgow. Works*; p. 735.

tures on General Grammar, Rhetoric, and Belles Lettres."* This sphere of lecturing, the greater part of which was wholly extraneous to the subject of the chair, continued to be that of the Logic Professors in Glasgow for more than a century—in fact for 112 years. The result was that the chair became wholly tutorial—any scientific development of Logic from its principles was never dreamt of. Contribution to the literature of Philosophy was entirely unknown. Some of the more obvious rules of syllogism and fallacies were taught carefully and efficiently; but that was all so far as Logic was concerned. Even the psychology given was limited, and metaphysical questions, so far from being discussed, were not even stated—and this in a University to which we already owed the logical treatises of Carmichael and Hutcheson, and the speculative thought of Reid! A system of patronage, narrow and nepotic, vested in the College, was the means of propagating this miserable traditionalism.

It was not until Hamilton fully and lucidly set forth the true character and place of Formal Logic as a branch of Mental Philosophy, in his article in the *Edinburgh Review* of 1833, that the study recovered its true position in the Scottish Universities. Of the influence of this remarkable essay we could not have a better illustration and evidence than in the *Elements of Logic* of the late Professor Spalding of St. Andrews—one of the ablest of our modern text-books, and one which shows the high tone of teaching in that ancient though small University from 1845 to 1860, the recovery, in fact, of its mediæval prestige. One of the earliest treatises which aimed at extending a knowledge of Hamilton's logical system beyond the class-room was an *Essay on the New Analytic of Logical Forms*, by Thomas Spencer Baynes (1850), now Professor of Logic in St. Andrews. Mr. Baynes is also the author of a *Translation of the Logic of Port Royal* (1850). Both works show the influence of the logical and historical spirit of Hamilton on a sympathetic student.

The same influence which acted in Scotland extended to Oxford and freshened the faded dialectic of that university, as represented by the meagre and inaccurate compend of Aldrich, for the *Outline of the Necessary Laws of Thought* by William Thomson of Queen's (1842), now Archbishop of York, and the able, learned, and valuable logical writings of the late Dean Mansel are the almost direct inspiration of Hamilton. We have to thank Oxford for Whately's *Elements of Logic* (1826), as one of the most useful and practical books on the subject which we yet have; but Oxford has had to look to Scotland rather than to its own Oriel for a systematic development of the science, and for the learning needed to correct blunders in its nomenclature

* Reid, *Statistical Account of Glasgow*. *Works*, p. 735.

and history. The most recent addition to the literature of Logic in Scotland is by Professor Bain of Aberdeen, who has given us two important treatises on Inductive and Deductive Logic. His deductive logic is marked by Mr. Mill's peculiar view of the syllogism, which need not at present be discussed. It is curious and interesting to find that one who may be regarded as the most eminent of the school of Locke in Scotland in our time, has written valuable works on that department of philosophy which Locke himself so greatly misunderstood and contemned.

We have not had in the Scottish Universities any marked attempt at a demonstrative system of metaphysics, unless in the case of the late Professor Ferrier.* Ferrier has been the most accomplished opponent of the observational method in these times in Scotland. His system shows the influence of Fichte and Hamilton, chiefly of the latter; for Ferrier's subject-object as the absolute is clearly derived from Hamilton's subject-object as the relative. Ferrier's contribution to Philosophy is the attempt to reason out an absolute system from this as a basis. It seems to me, however, that the basis of his *Institutes of Metaphysic* is essentially ambiguous, and that his application of the law of Non-Contradiction, by which he seeks to give coherence to the reasoning of the system, is a misapplication. The first four propositions of the *Institutes* contain at least two distinct, and even contradictory, meanings. These are (1) That the object is known along with the subject of knowledge or self; (2) That the object of knowledge is always object + subject. These are two totally different propositions; the former implies simply correlation of subject and object, the latter implies integration. Nobody need dispute the former; the latter requires to be proved, and we must ask for a test of subject and object in the object of knowledge. How is this to be got, if we never know either separately? Further, the nature of this object of knowledge cannot be proved by the law of Non-Contradiction, for the simple reason that this law cannot come into play until it has got a definite datum to guarantee and keep consistent with itself, and the mere consistency which it gives is subsequent to the datum, not demonstrative of it. And, further, it is an utter misconception of the law of Non-Contradiction to suppose that, dealing with a datum of our consciousness, it can go beyond this, and extend it as a law to all possible intelligence. This is to make a primary analytic principle the ground of a synthetic judgment.† What

* *Institutes of Metaphysic*, 1854. *Lectures and Remains*, 1866.

† I have discussed the true sphere of the law of Non-Contradiction, with special reference to Ferrier's views, in an appendix to the *Memoir of Dugald Stewart*, published in 1858. *Works*, Vol. X.

knowledge is, the law of Non-Contradiction cannot tell us; whether knowledge, as we find it, is essentially the same with all intelligence, it can as little tell us. I venture to think the *Institutes* a reasoned failure, and the failure is inseparable from the attempt. But the ease, the grace, the brilliancy of the style of the *Institutes* will make it always a memorable book in Scottish Metaphysics.*

Professor Fraser, who succeeded Sir W. Hamilton in 1856, has now held the chair more than twenty years—the extent of Hamilton's occupancy. During his years of teaching, in which he has quickened many a youth to speculative inquiry, he has made numerous contributions to the literature of philosophy. The most important of these is his edition of the works of Berkeley, with the Life and account of his Philosophy. Professor Fraser cannot be regarded as a Berkeleyan in the ordinary or technical sense of the phrase, as against a realistic point of view: a certain form of Natural Realism, indeed, comes very close to a possible interpretation of Berkeleyanism. His interest in Berkeley seems to be twofold—first, as a writer who has been powerfully influential in the development of modern speculation, and secondly, as one whose philosophy may be interpreted as a system of spiritual causation, and thus as beneficial in exhibiting and correcting prevailing materialistic assumptions.

All through the Scottish school and Reid, there is a revulsion from a mechanical or physiological explanation of mind. The naturalistic doctrines of Hobbes, Hartley, and Priestley led in part to this; and the evident tendency of Hume, in so far as he is dogmatic, to regard it as possible to explain the mind, or states of consciousness, on a principle akin to gravitation—an attraction and aggregation of sensations with its results—decided Reid in this attitude. The general position of the school has thus come to be that of a resolute maintenance of a distinction between physiological and psychological facts. The former are at the best but regular antecedents of the latter—conditions, but not causes, in any proper sense of the word. The doctrine of "the transmutation of energy," as it is called, was not developed in Reid's time;

* In the *Lectures and Remains*, Ferrier shows a tendency to take up Hegelianism, though he never came definitely to an acceptance of the system on its fundamental principles. The fact that the system is one that reverses ordinary points of view formed quite an attraction for his subtilising intellect. Any introduction of Hegelianism into this country since the time of Ferrier has been attempted without any real effort to vindicate the principles of the system, or to estimate its logical consequences. It will be time enough to examine it minutely when it passes the dogmatic stage of assertion, or the assumptive stage of the application of principles to fact and history, which are not vindicated as legitimate either on grounds of reason or fact.

but both he and Stewart would have said that there is, and can be, no evidence of the passing of a nerve energy into even sensation, to say nothing of thought, or will, so that any one of these is an equivalent of a definite quantity of force. The facts of mind or consciousness were to them wholly *sui generis.* Since their time, greater attention has been given to the physiological side of the mental phenomena. Hamilton, though he rated such inquiry at little as a means of throwing light on mental phenomena, somewhat broke down the barrier between the physiological and the psychological in his doctrine of sensation, which he latterly held to be a state, not of the mind alone, but of mind and body interpenetrated, and thus opened a way for the advance of physiology upon psychology.

Professor Bain of Aberdeen, in his able and important works in Psychology, may be said to have returned to the method of Hartley, but with greatly better appreciation of the requirements of the problem to be solved. This method may be said to be that of the Natural Sciences, and what he undertakes to evolve is a natural history of Mind, or explication of the states of consciousness, which he regards as *feelings* in their most generic aspect. His method may be described as a mixed one—physiological and psychological. Purely psychological study he regards as abstract and incomplete. Starting from a physiological basis, he describes the physiological structure and facts, and the states of consciousness which are connected with them. He has gathered together a large mass of details, and he has made very delicate and valuable observations. He is strong in descriptive analysis. He has sought to apply his method in great fulness to the mental phenomena—the Senses and the Intellect, the Emotions and the Will. He has greatly enlarged the idea of the physiological basis as not simply the brain, but the whole nervous system as affected by and manifested in nervous currents. But proximately mental force depends on the activity of the brain; this depends on nervous force; this again on transformation of blood, and ultimately on oxidation of the materials of nutrition. Mental force is a definite, though not numerically determinable, equivalent of combustion. This force is thus finally convertible with nervous force, and we see it again passing into its physical equivalent. Nutrition, or rather the law which creates it, is thus the ultimate cause or first form of Mind. Physical fact is single; but psychological fact has a double aspect—a physiological and a psychological. There is no mere or pure psychological fact—it is neither purely material nor purely mental. Sensation is the first or earliest mental blossom. Sensation and association are the only true elements needed to build up

Intellect. As an Associationist, Professor Bain is greatly in advance of Hartley in admitting the fact of spontaneous activity in Mind, as against Hartley's bare position that the brain simply obeys impressions. He finds, in fact, from the physiological side what Reid found from the psychological. With him it is mainly the spontaneity of muscular development; this ultimately, under new conditions, gives rise to Will. He has also very ably and ingeniously analysed the states of pleasure and pain, adopting in principle the Aristotelian law. With this are connected some of his most valuable analyses.

However important these physiological investigations may be, it is still open to doubt how far they are useful in promoting a genuine psychology. The last word of the system, absolutely carried out, is that Sensation is Motion. This is rather running us back into a less determinate idea of Sensation than we had before, simply from consciousness; and no form or kind of motion we observe can be substituted for the Sensation we feel. It is obvious, further, that the physiological research cannot dispense with the psychological method, for the correlate of the motion, the mental state, does not submit itself to vision; it stands out only in the clear light of conscious reflection. And it seems to me impossible to go deeper as a basis than Sensation or a state of consciousness; even this is never given *per se*, and is not sufficient with every possible postulate of association to afford of itself the key to human knowledge and experience.

The method of reflective analysis in philosophy—the analysis of experience and its conditions as realised in consciousness,—this is the old method which has been more or less faithfully practised in Scotland, we may say in Britain, since the time of Locke. There is still in it hope for the future. It has been somewhat narrowly understood and applied among us. Its true sphere is not merely the consciousness of the individual; it is the consciousness of the race. I see hope for philosophy in this slow, careful, almost painful method, if it be extended in its scope beyond the individual consciousness to the phenomena of animal life, to the course of history, to philology, political institutions, and scientific thought. Wherever and howsoever man has expressed himself, thither and through that form, through its origin and genesis, reflective analysis should follow him. The great defect of Scottish thinking has been its narrow acquaintance with the history of philosophical opinions, and its limited erudition. Of all the thinkers in Scotland since Hutcheson, Hamilton alone has redeemed the character of the school in this respect. Recently we have had an important addition, if not to the history of philosophy, at least to the literature of a kindred subject, in Professor Flint's able treatise

on the *Philosophy of History in France and Germany* (1874). We need, however, more than ever not only technical learning, but imaginative power of historical reproduction. All man has said and done is but a realised consciousness. Let this be fairly recognised by the reflective method, and we shall gradually approximate, not by demonstration but by observation and analysis, to a knowledge of the full contents and development of experience—of that vast sphere of being which is successively revealed to our personality.

"There was no place in Europe," said James Melville, speaking of Glasgow College in 1575, "comparable to Glasgow during these years for a plentiful and a gude chepe mercat of all kynd of langages, artes, and sciences." * The Scottish Universities have been faithful to the tradition of a high education and a cheap education; and they have thus been the Universities of the nation, not of a class; on the whole, they have shown a high education and a cheap education to be not incompatible. And in Philosophy they may fearlessly stand questioning as to the promotion of research. At the same time, it must be admitted that in some respects the research would have been fuller and wider had it not been for the poverty which weighed it down, and the height of the education would have been greater but for its cheapness.

It is a self-glorious commonplace at British Association gatherings to say that, while the present is pre-eminently the age of scientific progress and eminence, it is one of decline in literature and philosophy. This is one of those judgments, without reasons annexed, which we find given out in a somewhat off-hand and dogmatic fashion. It means very much that the speaker is judging of things only by what is open to his own vision. It is unfortunate, not for philosophy itself, but at least for its popular appreciation, that its processes and, to a considerable extent, even its results cannot be made palpable to the crowd. These must be thought out by the individual whom they are to stimulate and benefit. The mass of men have neither the leisure nor the training to enable them to do so. The results of scientific processes on the other hand, if not the processes themselves, can be made obvious to the senses, and palpable to the crowd. An analysis of space, or time, or causality, or even logical method, though essential to the completeness and even the vindication of scientific knowledge, cannot be exhibited like the spectroscope or the electrometer. But it would be a very narrow and ill-informed mind which would straightway, there-

* *Diary*, p. 78.

fore, pronounce the abstract work to be inferior in value or influence to that done by the scientific man. Looking only to the last twenty-five years of Scottish University history, there have proceeded from men occupying chairs of Logic and Moral Philosophy, contributions to philosophy characterised by an amount and quality of intelligence, by a painstaking industry and research, by a patience of reflective genius, which are not surpassed by any form of scientific effort in the same period. And among these writings there are some which show a culture and catholicity utterly unknown amid the specialisms of science. Public recognition or reward these workers seldom get, and probably do not much care for. What is offered to them is more frequently an insult than an appreciation. One hundred a-year was offered by a government of Great Britain to Hamilton, when he was poor and ill. It was, of course, indignantly spurned by him. But the work of such men has an influence which even politicians come to recognise, when they find it expedient. The results of abstract thought on practical life can seldom be immediate; they are first felt in individualism of character, and through that silent power, time will gradually work out, unobserved by commonplace stolidity, the changes of moral, political, and theological opinion.

JOHN VEITCH.

VII.—CRITICAL NOTICES.

The Physiology of Mind. By Henry Maudsley, M.D. London: Macmillan & Co. 1876.

Dr. Maudsley's well-known work on the *Physiology and Pathology of Mind*, having gone through two editions since its publication in 1867, is now being re-issued in an altered form. The original first part, revised and enlarged, appears as a separate volume, and the *Pathology* as an independent work will follow in due course.

The success of the book from its first appearance has been well deserved. To say nothing of the special value of the pathological section which in the new issue is not yet before us, it is impossible to read Dr. Maudsley's general chapters on the method of psychology and the relation between mind and the nervous system, or his more specially physiological chapters with a psychological reference, or his more specially psychological chapters with a physiological reference, and not undergo a genuine intellectual stimulation. There is also throughout a certain vigour of expression which, if at times a trifle rough or even crude, not seldom is mellowed into a grave eloquence, as when, for instance, he tries to acknowledge the immeasurable debt of the individual to mankind or considers the spectacle of human striving in relation with the universal order. Nor is there lack of true scientific insight, whether as turned upon the workings of mind generally, or upon the special questions that have engaged the attention of recent psychologists. On the subject of unconscious mental life, no English psychologist is more to be regarded than Dr. Maudsley. Few understand as clearly the import of the motor side of the human system—what he calls Actuation or Effection—in the explanation of knowledge. And, to mention one other point only, the very last paragraph of his present volume, where he shortly considers why we have no exact memory of pain, contains a suggestion most strikingly illustrative of the advantage, or rather the necessity, in studying Mind, of keeping that unceasing hold upon physiological conditions for which it is his real object to contend.

It is Dr. Maudsley's general position that most claims attention on the issue of the present work as an independent theoretic treatise. What is that notion of 'Physiology of Mind' which he seeks to put forward? The words may either mean, in a general sense, 'Natural Science of Mind,' 'Psychology as Natural Science,' or they may mean a theory of Mind in relation with the special sense of physiological science. To Dr. Maudsley, within the compass of his book, they seem to mean both the one and the other, or, rather, now the one and now the other, according to his mood—and his mood varies. It is not possible to urge more forcibly than he does how unscientific any doctrine of mind must be that is not based on experience, and what a range of experience (all, in a true sense, natural) is available for scientific psychology. In the words of his own summary, "the study of the plan of development of mind, the study of its

forms of degeneration in the insane and criminal, the study of its progress and regress as exhibited in history, and the study of biography," may none of them be neglected. All this he understands as included in the inductive method objectively applied to the investigation of mind, and such a treatment might with good reason be called, as he sometimes calls it, physiological. But, of course, the word is ambiguous, and in general, throughout the work, he has the other meaning in view, according to which the scientific doctrine of mind is to be called 'physiology,' because mental phenomena are specially connected with the organic processes of the body generally, and the activity of the nervous system in particular. Physiological investigation of the nervous and general bodily system has in recent times made great and steady progress, and it is Dr. Maudsley's great contention that the hope of attaining positive knowledge concerning mind is bound up with the advance of physiological science in the strictest sense of the term. Therefore, in his first edition, he made an "energetic exposition" of the shortcomings of what he calls variously "the method of introspection," "the method of self consciousness," "the metaphysical method," "the psychological method," and also "psychology" simply. And though he seeks in the present edition "to maintain the level of a more sober style," because he is no longer so young and enthusiastic, and, besides, "the physiological method" seems to him now-a-days to stand above the need of defence or advocacy, he yet abates not one jot of his old antagonism to any doctrine of mind that is not in the special sense physiological. How does he then understand such a doctrine?

Here again his mood varies, and now in a way that is not a little surprising. When the fit is on him, Dr. Maudsley will hear of nothing but physiology—physiology of brain, and woe be to the luckless introspectionist who ventures to think of profiting by physiological discoveries and would fain thereby seek to "put meaning into the vague and abstract language of psychology: that would simply be to subject physiology to the tortures of Mezentius—to stifle the living in the embraces of the dead". There is no question of brain *and* mind, but it is "brain *or* mind"—"mind *or* brain"; and "mind" is to be understood as "mental organisation," and this again as "that organisation of brain which ministers to mental function"; for "the substance beneath" is brain and only brain. Of course, then, there is no room but for physiology. The scientific inquirer must work up from vital to mental phenomena, and this he can do so perfectly upon the strictly physiological track, that it is nothing short of a pure hardship for him to have to express his results in the terms of psychology —so vague, so obscure, so figurative, so full of theory and the theory false, &c. &c. Because there is continuity between the physical processes of life in the organism and the physical processes that have been discovered to be concomitant with the phenomena of mind, Dr. Maudsley will have it that brain and mind differ not otherwise than an orange touched differs from the same orange seen; and thereupon he declares in a tone he loves to assume—"Above all things it is

now necessary that the absolute and unholy barrier set up between psychical and physical nature be broken down." No wonder, if the psychical is just a kind of physical, that he cannot have patience with introspective psychologists trying to link their notion of mind with the rich discoveries of physiology, and must tell them, whether in sober style or not, that they seek "an unhallowed and unnatural union which can only issue in abortions, or give birth to monsters". But when the fit is off, or rather in its pauses—for it is never quite off—we hear another strain. There is a "happy bridal union from which we may expect vigorous offspring," and what may this be? It is "the union of the subjective and objective methods," and this is declared to be the true method of psychology—physiology no more. Dr. Maudsley at an early stage of his exposition adopts Comte's superficial objection against the possibility of self-introspection; but, like Comte himself, he finds he can practise it perfectly well whenever there is occasion (as when is there not?). Hear him when he is in the vein.

"We can observe the associations and sequences of mental states without knowing their physical antecedents. Moreover, when we have discovered by objective inquiry the physical antecedents, we must still depend upon the help of subjective observation in order to establish the exact sequences of the mental states, which we only know by introspection, to the physical states which we observe and make experiments upon" (p. 47). Again (p. 61): "Everybody (?) can perceive that feelings, ideas, volitions are known through self-consciousness, and have only a subjective meaning. And although they may, and no doubt do, correspond to what, I suppose, we may call objective changes in the nervous system, we cannot know them by objective inquiry, any more than we can know the material changes by mental introspection. No observation of the brain, no investigation of its chemical activities, gives us the least information respecting the states of feeling that are connected with them; as has been aptly remarked, it is certain that the anatomist and physiologist might pass centuries in studying the brain and nerves, without even suspecting what a pleasure or a pain is, if they have not felt both; even vivisections teach us nothing except by the interpretation which we give them through observation of our own mental processes."

Nay, so certain is Dr. Maudsley now of the facts of subjective experience, as revealed by self-introspection, that he does not hesitate with the veriest idealist that ever was to declare that, when we are dealing with purely natural forces such as electricity and chemical affinity, and the changes in matter to which they are sequent, all the "sequences, as known to us, are only states of consciousness"! (p. 63).

Might Dr. Maudsley then fairly disclaim, as he originally did, any "absurd attempt to repudiate introspective observation entirely"? Assuredly. But might his critics as fairly charge him with seeking "to employ the physiological method exclusively"? Assuredly also. This is what comes of an exposition so very "energetic" in one phase as to exclude the possibility of there being another or make its later recognition a piece of gratuitous, and not quite harmless, inconsistency. The time is long past—if there ever was a time—when such an advo-

cacy of the 'physiological method' could serve a good purpose. Since when has there been any indisposition on the part of serious psychologists to accept all physiological results, really established, that have a bearing on the conclusions obtained by what Dr. Maudsley himself, as we have seen, allows is the perfectly legitimate and indispensable method of introspective inquiry? Let physiologists bethink them why on their side it is only so recently that results have been obtained worthy of being taken into account for the general science of mind. It will be time enough to deride the willingness of psychologists to appropriate the results of physiology, when physiologists show not less readiness to pay heed to the best results of the introspective method, instead of themselves making crude attempts at psychological analysis. Meanwhile, the energy of Dr. Maudsley's exposition can only have the effect of confirming the unwary among his brethren in the very attitude of psychological ignorance which, happily for himself, he has never seriously maintained.

Curiously enough, too, in this so-called *Physiology of Mind*, while it is those parts of the book where Dr. Maudsley is constrained to become the advocate of the method of introspection that are most to be recommended to physiologists, the more strictly physiological parts are not in turn those which the psychologists need most to lay to heart. Even before the present generation there have been professed psychologists as deeply imbued as Dr. Maudsley himself with the physiological spirit, though unlike him in keeping steadily in view, and not forgetting and remembering by turns, the subjective aspect of mental life. But one thing the psychologists have been slow to learn —the necessity of studying mind on a broader scale than the self-consciousness of the individual or of studying the individual mind in express relation to the social environment wherein it is developed. Now of this necessity Dr. Maudsley has so firm a grasp that, though he impresses it but incidentally in his book, he truly deserves to be distinguished as one of the pioneers in a path of inquiry which English psychologists must no longer delay to tread. True, the introspective analysis they have pertinaciously followed out is the indispensable foundation for effective conclusions on this or any other line of positive inquiry in relation to mind,* to say nothing of its import for general philosophy, which comes little into Dr. Maudsley's view. Yet there could be no greater mistake, in trying to deal scientifically with such a subject as Mind, than to be slow to adopt a new point of

* This was a point well urged by Mr. Stewart in MIND No. IV., in his short paper entitled 'Psychology—a Science or a Method?'. Mr. Stewart did not, however, carry me with him to his conclusion that psychology is a method and not a science; and when he represented this as the position of earlier English inquirers like Hume, he surely overlooked the emphatic assertion in the introduction to the *Treatise on Human Nature*, that the object was to obtain a "science of man" by the same method of "experience and observation" as had recently led to the extraordinary advance of physical science; though with this was coupled the philosophical idea that the science of man when thus got would form "the only solid foundation for the other sciences".

view, so obviously suggested by the advance of other special sciences and by the growth of the conception of order as pervading every way the stream of phenomenal occurrence. For all the psychological books that have been written, with or without regard to the strictly physiological conditions of mental life, we are still far from understanding the actual process of development of the mind, related as it is in every individual not only to the world of natural experience but to that complex of conditions which, while also natural in a wider sense, are, for men at least, properly called social. All credit is due to Dr. Maudsley for his intelligent appreciation of what remains to be done on this side for psychological science; and only there is room for regret that he cannot advocate this or any other true conception without marvelling overmuch at the intellectual weakness of those who cling to that subjective study of mind which first engaged the attention of philosophic thinkers and may not be neglected to the last even by 'mental physiologists'.

EDITOR.

A Treatise on the Moral Ideals. By the late JOHN GROTE, B.D., Professor of Moral Philosophy in the University of Cambridge. Edited by JOSEPH BICKERSTETH MAYOR, M.A. Cambridge: Deighton, Bell, & Co.

THIS posthumous work has the merits and defects which a reader of Prof. Grote's already published treatises will naturally expect to find. It is rather subtle than exact, rather comprehensive and impartial than systematic or in any way exhaustive: full of fresh and independent thought, just criticism, and fine psychological observation, as well as elevated moral sentiment, and sagacious practical counsels; but not in the highest sense original or penetrating in the treatment of ethical theories. Thus, while there is no living thinker who may not learn much from it, it is hardly likely to have a marked influence on contemporary thought. It should be observed that the impression of inexact and unsystematic exposition which the work, as a whole, produces on the reader's mind, is partly due to the fragmentary condition in which it was left; and partly also to the editor's plan of supplementing the gaps in it by extracts from other unpublished manuscripts of the author: though the reader cannot fail to be grateful for these additions, which seem to have been most carefully and judiciously selected.

At the same time, we seem to notice here and there a deliberate avoidance of precision and systematic completeness. Prof. Grote indeed tells us (p. 139) that "exact classifications in a subject such as we are now dealing with are a mere appearance"; and again (p. 138) that "objective morality . . . is not anything which can be expressed in any sort of way in a code or system". Several other passages might be quoted to the same effect. It is true that, as the editor contends, Prof. Grote was by no means indifferent to the advantages of clearness and consistency; but we can hardly concede

that he was "remarkably free from hastiness and looseness of thought," except in a very limited sense. His dissertations on Virtue, Duty, Wrong-doing, Happiness, Character, &c., all contain a rich fund of mature reflection, but the form in which this is communicated is by no means free from the defects of haste. Again, when he is engaged in describing the relations of different points of view, or distinguishing the different meanings of common terms, his subtlety and clearness of discrimination often strike one as masterly; but this clearness is not equally maintained in his more detailed development of views, or in his habitual use of his own cardinal notions. Nor, finally, does he seem to succeed in his main purpose of combining into a harmonious whole the chief competing systems of moral philosophy; though his impartial study of their mutual relations has led him to several valuable suggestions for such a combination.

The main plan of the treatise is sufficiently indicated by the characteristic phrase "Aretaics and Eudaemonics" which heads the first chapter and was originally intended for a title to the whole work. Both Aretaics or the "Science of Virtue," and Eudaemonics or the "Science of Happiness," are required, in Prof. Grote's view, to make a complete moral philosophy; the former dealing with man as an active being, the latter considering him as a sentient (or pain-feeling and pleasure-feeling) being. The reason for regarding these as two distinct sciences is, we are told, that man's "activity and his sentience are two independent portions of his nature, each as early, as native, and as important as the other". Now we can no doubt conceive a purely speculative study of human feelings, which should keep clear of any reference whatever to action; a study which would merely aim at distinguishing and classifying the different species of pleasures and pains, and investigating their causes, without entering into the question whether and how far the former were to be sought and the latter shunned. But this does not correspond to our author's conception of Eudaemonics: for he gives as the "fundamental axiom" of Eudaemonics, "that pain is a thing undesirable, or to be avoided," the antithetical axiom of Aretaics being that pain is "a thing not to be inflicted". Now the proposition "that pain is to be avoided," clearly deals with man as an active being: it directs him to action for the avoidance of pain, as Prof. Grote afterwards (p. 145) clearly sees. And if we take the axiom generally, understanding it to be "that pain is a thing undesirable for *any one*," not merely "for me," it necessarily includes the fundamental axiom of Aretaics. For if pain be something which (as far as possible) no one is to suffer, it must obviously be something which (to an equal extent) no one is to inflict: the two statements are merely two sides of the same practical principle. Eudaemonics, in fact, if it is to be practical at all, must claim the whole sphere of human activity; to relinquish any portion of it to a separate science of Aretaics would be an act of the most illogical and suicidal moderation.

A similar criticism must be passed on our author's attempt in ch. vi to hold the balance even between Utilitarians and their opponents in

expounding his theory of the "value of action in the abstract". Actions, he says, have two kinds of value, eudaemonic and aretaic, each of which may be taken as a part or element of the full moral value of actions in the universe. Their eudaemonic value is, of course, proportioned to their "usefulness," or tendency to promote happiness; but their aretaic value depends on a quality quite different from, and in a manner opposite to this—the degree, namely, of "generosity," "self-forgetfulness," "non-value for [one's own] happiness," with which they are done. Here, again, it seems obvious that a sincere acceptance of the principle of maximising happiness *generally* involves a readiness to sacrifice one's own happiness to the greater happiness of any one else, in case of a conflict of interests. No doubt from a Utilitarian point of view this readiness has only a secondary or derivative value, depending on the existence of this (real or apparent) conflict of interests: and it may still be urged on Prof. Grote's side that our common moral consciousness recognises an *independent* value in self-sacrifice: to which Utilitarians may reply that common sense condemns *some* self-sacrifice as extravagant and that no satisfactory criterion of right and wrong self-sacrifice can be suggested, except the Utilitarian. In short 'Eudaemonics' has necessarily its own peculiar theory of Virtue, Moral Excellence, Moral Value; which may be more or less effectively attacked, but which it is idle to treat as non-existent.

Nor am I prepared to assert that Prof. Grote does so treat it. Indeed, as we advance further in the book, it becomes somewhat difficult to see how he draws the line between Eudaemonics and Aretaics. This difficulty is partly due to his treatment of the latter inquiry. Though he argues with much clearness and force (in ch. ii.) that "Aretaics is ideal in its very essence," and makes many interesting and some profound remarks (chs. iii.-v.) on the nature of the Moral Ideals, and their relation to Intellectual Ideals, he does not seriously and directly attempt to expound the principles of Aretaics from this point of view. After a subtle and suggestive account of the general notion of Duty as compared with the cognate notions of Virtue and Law, he passes rather unexpectedly from ideal to what he characteristically calls "observational Aretaics": that is, instead of a construction of ideal Virtue on rational principles, he gives us (chs. viii., ix.) an analysis of Virtue as a "fact in the world," a generally recognised and admitted feature of human life. Virtue thus viewed is found to consist of three elements, benevolent impulse, sense of duty, and love of excellence. Of these the former is given as primary and principal, though the two latter are indispensable supplements: "Virtue (we may say) is benevolence, more or less stimulated and regulated by the accompanying sense of duty and love of excellence". But Benevolence, or "the disposition to do action for a good purpose," is expressly characterised by our author in such a manner as to refer it to Eudaemonics, if this be (as defined in ch. i.) the science which deals with man as a sentient being: "By Benevolence," he says, "I have wished to indicate the effect on us, as *sentient beings*, of a number of beings *sentient or feeling like ourselves*, into whose feelings we enter". While again in ch. x.

the proposition "that pain is not to be inflicted" seems to be treated as essentially an application of rational benevolence, necessary to counteract the effect of "bare equity or fairness" (pp. 213, 214): though in the preceding chapter (pp. 144-147) "*Neminem lœde*" is given as the fundamental maxim of Conscience (or the sense of Duty) in contradistinction to the axiom of Benevolence "Love all in their degree". The truth is that the division between the sciences of human activity and human sentience, proposed in ch. i, is far too unnatural to be maintained, and therefore becomes an inevitable source of confusion: while at the same time it tends to prevent a fair and full discussion of the claims of Utilitarianism to regulate activity by sentience.

The value, then, of Prof. Grote's Aretaics certainly does not lie in lucid development of its relation to Eudaemonics, nor indeed in its systematic character generally: but rather in the discussions on special points of morals, scattered historical *aperçus*, fine psychological observations, and subtle analysis of complex sentiments. I may refer for illustration to his distinction in ch. viii of the different feelings called vaguely "benevolent," to the account in ch. ix of the Love of Excellence as the regard for moral value modified by rivalry, and of the Sense of Honour as the same regard with a special stress laid on that imagination of the judgment of others which normally accompanies all our moral judgments. Again, the whole account, (in ch. x and its appendix) of the principles of distribution of services considered first ideally and abstractly and then in relation to existing law, is worth studying: and the different elements in the common notion of Justice are well discriminated. The following is one of the apt corrections of traditional commonplace which Prof. Grote delights in supplying:—"It is in reference to its character as impartiality, and as being 'no respecter of persons,' that Justice is drawn blind. . . . Justice might perhaps better have been drawn with many eyes to see the difficulties which from opposite directions beset impartiality, and of which sinister interest is one only".

A chapter on wrong-doing (ch. xi.) temporarily concludes the "observational Aretaics". the discussion of Eudaemonics is then taken up and carried through two chapters, on Pleasure and Happiness respectively, to which the editor has appended two extracts from earlier MSS. Prof. Grote takes as fundamental a distinction which recalls the old Epicurean classification of pleasures into those ἐν στάσει and those ἐν κινήσει. His first class of pleasures and pains he characterises as "feelings of undisturbance" or rather (as he explains) feelings that involve a slight and indefinite general disturbance in the direction of pleasure and pain respectively. Pleasure of this kind he proposes to call "wellfeeling," meaning "the feeling which accompanies a normal and healthy state of mind" when consciousness is chiefly occupied with objective regards. "Pleasures of disturbance," again, he divides into (1) those which accompany the satisfaction of a want, and (2) those which do not: the latter he inclines to call "pleasures of enjoyment"; the former, "pleasures of gratification". He adds some just criticism of two opposite errors, that of Butler who only recognises pleasures of

gratification, and that of the Utilitarians who ignore the dependence of these pleasures upon antecedent desires which are not generally directed toward pleasure. He proceeds to attack Utilitarianism as mistaken, and dangerous to morality, in taking "distinct, measureable, describable pleasures" as the element of Happiness: and neglecting the more important element "well-feeling" which does not lend itself to definite measurement. The criticism is not without force; but its impressiveness seems partly due to an ambiguity in the notion of "wellbeing," to which "wellfeeling" is the corresponding consciousness. For (1) if this notion be taken in the widest sense in which Prof. Grote uses it, to include the whole variety of normal life, "enjoyed thought, emotion, action," we can surely analyse "Well-feeling" into elements similar in kind to the "distinct and exhibitable pleasures" from which it is distinguished, though they may be fainter in degree. The pleasures of benevolent affection, or of artistic emotion, or of scientific investigation, or of the exercise of skill of any kind, seem to be as definite and "describable" as those of gratified appetite. While (2) if Wellbeing be understood to mean "loving rightly, doing as we should, in which doing we feel as we should," and a strictly "aretaic" interpretation be given (as it is by Aristotle) to this notion of Well-doing; then according to Prof. Grote's theory of Virtue, it must consist in the exercise of benevolence regulated by a right view of duty: that is, practically, in bestowing happiness on the proper people. And thus, if our ideal is not to be reduced to the almost ludicrous conception of a society of human beings beneficently bestowing on each other beneficent dispositions, we must fall back on the second element of Happiness in order to give definiteness to the first.

The truth is that Prof. Grote's account of Wellbeing (and, I may add, of Beneficence) would have been more satisfactory if he had attained a clearer view of the contents of his notion of Good or Desirable as distinct from Duty or Virtue on the one hand and Pleasure or Happiness on the other. That he had faced the difficulties of this task is evident from chs. ii, iii, where he distinguishes three principal forms of the moral ideal (1) Right or Faciendum, (2) Bonum or the Desirable, (3) Happiness; and treats the first two as primary, while he regards the third as "arising from the coupling of the sensible fact of pleasure and pain with the previous ideal of 'the desirable'". But though he has given us some very interesting reflections on the general nature of Good, considered as the correlative of "Want or Egence" in the universe, he nowhere seems to have answered distinctly the questions raised in the following passage (p. 35):—"The desirable, or the 'to be desired,' is a much more complicated notion. Has it or has it not the former ideal mixed with it? Is the 'to be desired' in any way that which 'ought' to be desired? or is it 'the desired' with appeal to human feeling and human history? or is it 'the reasonably desired' pointing to some other ideal still for its interpretation?" Still less has he offered a theory, even in outlines of the particulars of Good. Indeed, though the comprehensive view of the moral ideals exhibited in chs. ii-v would rather have suggested a *three-fold* division (at least) of Moral Philosophy, in

the main part of the treatise he seems to have worked on the basis of the simple antithesis between Aretaics and Eudaemonics, given in the first chapter; and thus is led sometimes to use "good" as convertible with "felicific," as in speaking of "good will," "good purpose"; while at other times he distinguishes "giving pleasure" from "doing real good" (p. 334).

I have not left myself space to notice the remaining chapters on "moral elevation," "the relation of the ideals to higher and lower fact" "actual and ideal human nature," the "goodness of custom." and "the relation of the individual to custom," "character, will and education," "discussion, controversy, war," and the "importance of right belief". The treatise perhaps becomes somewhat more *décousu* as we approach the end, without however losing in interest. Many of the doctrines developed in the book will be familiar to readers of the *Examination of Utilitarianism:* but Prof. Grote was too fresh and fertile a thinker to repeat himself tediously.

H. Sidgwick.

Les Causes Finales. Par Paul Janet. Paris: Germer Baillière, 1876.

This work, from the pen of an eminent representative of philosophical spiritualism, aims at presenting the particular theory of Final Causes maintained by this school with greater fulness and systematic exactness than has yet been done, and at the same time of re-asserting the importance of the teleological conception of the universe in the face of the contempt cast on it by modern science. The work consists of two parts answering to what may be called the scientific and the metaphysical problem of finality. The first deals with the question whether finality or the adaptation of means to ends *(Zweckmässigkeit)*, is a law of nature, the second is concerned with the inquiry into the ultimate cause or principle on which such finality rests. This order of treatment is much the same as that adopted by E. von Hartmann in expounding the related principle of an unconscious will and intelligence in the universe.

M. Janet begins by giving us a definition of final cause. As presented to us in experience it is "an effect, if not foreseen at least predetermined, and which by reason of this predetermination conditions and commands the series of phenomena of which it is in appearance the result". It strikes one that M. Janet's caution in separating the problem of adaptation from that of its interpretation when ascertained forces him here into an unmeaning abstraction. How a result can *command* an antecedent series of events apart from some mode of prevision is not easily conceived. In truth the writer is forced again and again in spite of his professed postponement of the question of a prearranging intelligence to concede that finality has no meaning apart from an antecedent mental representation of the dominating result.

That there is such a thing as finality in nature cannot, says M. Janet, be known *a priori*. Unlike the law of causality it is, to speak in

Kantian language, a "regulative" not a "constitutive" principle. If valid, it must be justified as the teaching of observation and induction. This, by the way, is clearly to assign to the idea of aim (*Zweck*) a much more modest rank than is claimed for it in other systems, for example the Hegelian. How does experience supply us with a basis for this induction? This is M. Janet's argument. A glance at the order of events in nature shows that it is made up of separate chains of phenomena each of which is sufficiently held together by the law of causation. But in addition to the separate threads there are the juxtapositions—co-existences as well as successions. If these are rare and few in number they do not require explanation; if, however, they are numerous and complicated, they have to be accounted for. Sometimes this may be done by a mere reference to a previous arrangement of causes (as in explaining the frequent presence of sea-shells on mountains); at other times this is impossible, namely whenever the recurring combination has the "character of being determined relatively to a future phenomenon more or less remote". In these cases the relation of the coincidence to the future phenomenon is an additional element needing explanation, and this involves the conception of "a cause in which this future phenomenon is *ideally represented*". [Surely this is to admit that finality apart from mental representation is meaningless.] Thus we reach finality as a fact or law of nature. "We set out from a fixed point given us in experience as an effect: but this effect not being possible except by an incalculable mass of *rencontres*, it is this agreement among so many coincidences and a certain effect which precisely constitutes the proof of finality." The conditions of this proof, it need hardly be said, are found by M. Janet in a conspicuous form in the numerous and complicated adaptations of organ to function. He argues that the complexity and heterogeneity of the co-existences entering into the formation of an organ and still more of an organism wholly preclude the idea of fortuitous coincidences, since in these cases such coincidences would have to be conceived as infinite in number.

But allowing that finality, in the meagre signification which M. Janet has hitherto endeavoured to assign the term, is proven, how are we justified in inferring that it implies some form of intelligence? By the argument known as analogy, answers our author. Having a direct experience of pre-arrangement in our own voluntary actions, we reason that a similar cause produces the adaptations of nature: "The same effects imply the same causes". The reasoning is of the same kind as that employed in inferring that the actions of our fellow-men and of the lower animals are preceded by conscious purposes. It differs from this mode of conclusion only in the degree of the probability. M. Janet labours hard to show the close resemblance between the industry of man and that of nature which in its progressive stages employs means of greater and greater complexity, and involving more and more deliberation.

M. Janet then endeavours to determine the right relations of the teleological and the mechanical method of interpreting nature. The invariable employment of the latter does not, he says, exclude the

former, since the means which conspire to produce a given result must always work according to mechanical laws; only in addition to this physical explanation the ingredient of fitness already emphasised requires an intellectual solution.

The argument of the First Book is brought to a close by a consideration of the principal objections commonly urged against the doctrine of finality, and by a separate discussion of the theory of organic evolution in its older and newer forms. The author here presents the difficulties of his theory in their full force, and however inconclusive some of his answers may be, they frequently display considerable ingenuity. In reviewing Mr. Darwin's theory he follows previous objectors both in throwing doubt on the principle of natural selection as a dominant cause of organic transformation, and in contending that the useful variations which are to be preserved by natural selection themselves imply purpose. This line of remark is followed up in an appendix devoted to an examination of Mr. Spencer's biological principles.

The reader will perceive from this brief summary that M. Janet adds little in substance to the arguments previously resorted to in favour of design in nature. Though he works out many points with independent reflection, and presents his subject with much freshness of illustration, the real force of the reasoning lies in the contention that a recurring assemblage of complicated conditions converging towards one result involves a pre-representation of that result. We do not intend to argue this question here, though we may congratulate M. Janet on substituting so definite a criterion for the looser methods of ascertaining marks of design. One or two observations on M. Janet's line of reasoning must suffice. We hardly think he will secure the support of men of science in limiting the action of physical or mechanical causation where he does. To say for example that mechanical principles cannot account for the symmetrical arrangement of the lines of a crystal is surely to betray a rather superficial acquaintance with the mechanical mode of explanation. It seems much too soon, in view of Mr. Darwin's reduction of so many adaptations to a strictly mechanical process, to affirm that physical causation is inadequate to account for the orderly arrangements of living structures. We are no doubt still a long way from a mechanical theory of organic growth, but it may be said to be the *quæsitum* of modern science, and no one can say that it is a chimæra. Should it ever be reached, one suspects in spite of M. Janet's assurances, that ideas of final causes will soon wax very faint. For such a theory, while admitting that there is a close relation between organ and function, would be able to furnish another explanation of the relation, and M. Janet's argument that what resembles the result of intelligent volition cannot be due to another cause will hardly convince those who are familiar with the doctrine of the plurality of causes. The author seems to us to argue most weakly when he seeks to assimilate our knowledge of design in nature to that of others' conscious thoughts and volitions. The independent chains of reasoning by which we are able to establish the existence of another

mind, whether in one of our fellowmen or of the lower animals, serve as a mode of mutual verification, and to this there corresponds nothing in the teleological argument.

We will not follow the author into his Second Book, where the several philosophic interpretations of finality are carefully examined and the reasons set forth in favour of a transcendent intelligence rather than an immanent principle, whether conscious or instinctive. It is sufficient to say that the student of philosophy will here find a valuable retrospect of one aspect of philosophic history and not a few pertinent criticisms on the weaker sides of the several theories reviewed.

JAMES SULLY.

VIII.—REPORTS.

Functions of the Cerebrum.—At the end of his first paper on the functions of the cerebrum in dogs, reported on in MIND No. V., Prof. Goltz promised to deal with the psychical effects of his remarkable experiments in another paper. It was not very obvious what results remained to be indicated, after he had so carefully stated not only the effects on sensation and movement, but also the change of emotional demeanour in the subjects of his experiments; and it is therefore hardly surprising that, in the second paper which he has now contributed to Pflüger's *Archiv* (XIV. 8, 9), he does not advance very far beyond the lines of his former communication. He has, however, widened the scope of his research by treating both hemispheres instead of one only, and, while the results thus obtained are generally confirmatory of those before published, they are altogether of the most striking character. He is doubtless, as he supposes, the first observer who has been able to note the *permanent* results of wide-spread destruction in both hemispheres of a highly organised animal, and his method of experiment (washing out by a jet of water, which leaves the great blood-vessels unruptured) needs no other testimony to its scientific value.

As anything like considerable destruction of the cortex of either hemisphere was found to be attended with a permanent reduction of *Touch* (in all its modes) on the other side of the body, so destruction in the two hemispheres is followed by permanently reduced sensibility over the whole frame.

The effect upon *Sight*—partial or total blindness according to the extent of cortical destruction—previously demonstrated in one eye from the opposite hemisphere, is exactly reproduced in the other eye when the remaining hemisphere is in turn affected. In the cases of largest destruction, the blindness remained total for weeks and showed no signs of disappearing. When more limited, the animal would begin after a time to respond to impressions of sight, especially from moving objects; but even when the destruction was very partial, if on both sides, a relative insensibility to light could always be established by special tests, months afterwards—meat, for example, not

being recognised by its colour when beyond the reach of smell, or even when smelt, not being detected by the eye, if hung in an unusual position (though very close) over the animal's head. Goltz's determinate conclusion, after a most varied series of experiments, is that the permanent effect on vision depends strictly on a loss of natural function of the cortical areas destroyed by the operation; and according to him the areas are in no way circumscribed.

The other special senses—*Hearing*, *Smell*, and *Taste*—might be expected to be in like manner affected by cortical destruction, though in the first series of experiments—on a single hemisphere—there was no clear evidence of any effect produced, owing to the difficulty or impossibility of stimulating one ear (for example) without the other. The expectation has not been verified. Even when the destruction in the two hemispheres was so great as to leave an animal permanently blind, it would begin to respond to sounds within a few days from the operation—wag the tail when called by name, bark when barked at (even by a human throat, till it found it was being tricked), and cower at the sound of a whip though shaken in vain before its eyes. Smell also appears to be unaffected, though there was a doubt in one or two cases. Taste, which is so hard to separate from smell, has not been sufficiently tried.

As regards *Movements*, the experiments on two hemispheres generally confirm those on one. There is a permanent muscular helplessness of the limbs on each side from the opposite hemisphere, which is either plainly marked with large destruction, or may be made manifest by special tests if the destruction is small. One striking effect is the tendency to take high steps like a cock, especially under excitement. The use of the forepaws for grasping is completely lost. Yet Goltz asserts that the awkward movements after loss in both hemispheres are not less energetic than in the normal state: great enough leaps would be taken to clear high obstacles, but to no purpose because taken only in the vertical direction. It is also remarkable that the muscles of the jaws remain unaffected, bones being crunched as effectively as usual.

Very marked is the change in *general demeanour* when both hemispheres have been treated. The animal has a stolid dazed look, remains still, begins to move slowly, and then moves straight forward like an automaton, not avoiding obstacles. In eating it finds the pieces of food in a dish with difficulty, being apt to bite the dish instead or any indifferent object: one dog had the habit of placing its forepaw on the dish and repeatedly bit it by mistake. The teeth at first work irregularly; yet the tongue always escapes injury, and, even when the destruction extends down to the corpus striatum and optic thalamus on one side, seems to have its movements unaffected.

With the inability to find the food in a dish, there appears also a loss of the *sense of locality* in general. If called from a distance, the animal would get up to come to the place, but wander about without reaching it. Goltz could not suppose that this was due only to loss of vision, when blind dogs get about so easily and surely, and, as in the

subjects of his experiments hearing and smell remain intact, he judged that the fault must lie with the muscular sense and whatever else is involved in the perception of the body as extended in space. He therefore devised experiments for testing the animal's ability to free itself from disagreeable irritation at different parts of the surface of the body, and found that after loss in both hemispheres it could no longer, as before, apply its snout directly to the places affected, but only made more or less indeterminate reflex movements. To his surprise he then found that the power was equally lost for the whole body, *though only one hemisphere was treated.*

[This is certainly a very remarkable fact and seems to show how complex is the integration of sense-impressions and movements in what we call an act of *perception.* The reference of sensation to a definite locality on the extended surface of the body is, of course, very different from a mere passive sense-affection, and, to judge by the experimental evidence, is connected with such an involved nervous process in the convolutions that it is affected by the disturbance of this at any part of the cortical substance in either hemisphere.]

The *sexual appetite* remains after moderate loss in both hemispheres, but vanishes when it is great. Other *emotions* as hate, love, &c., survive considerable destruction. Interesting particulars are given on this head as on others.

Nothing depends more definitely upon the amount of brain-matter than *Memory,* as shown by its decay with progressive destruction of the cortex. Also, when both hemispheres are treated instead of only one, new acquisitions become impossible.

In conclusion, Goltz urges that whatever be the permanent deficiencies of function established by the experiments, no single muscle is lamed and (as before mentioned) the whole amount of muscular energy is not reduced. He has not been too particular in assigning the amount of destruction in each case, because there appeared no difference of result as dependent on particular convolutions: the difference was quantitative only. The parts affected were the upper and lateral surfaces, but these (as mentioned in the first paper) both within and without the 'excitable region' of Hitzig [and Ferrier, to whom Goltz still does not refer]. The corpora striata and optic thalami were liable in cases of large destruction to be affected, and may thus be involved in the resulting phenomena to an extent not yet determined. [This is a point over which Goltz passes much too lightly.] The research, he maintains, is decisive against the older doctrine (of Flourens) that a mere remnant of the hemisphere can do the work of the whole. Nor, as far as it goes, does it lend any confirmation to the newer doctrine that particular regions of the cortex have special functions; for, however symmetrical were the portions of the two hemispheres destroyed, the effects on the opposite sides of the body were always alike, or differed only quantitatively in proportion to the extent of the lesion. The fact that hearing remains intact, after loss of sight, might indeed be taken to imply that there is a special centre for hearing in the basal part of the brain not reached by the opera-

tion, but till such a spot is positively indicated, Goltz refuses to take up with any such supposition. [The reader need hardly be reminded that Ferrier does assign a special centre for hearing, not however on the basal part of the brain, but on the lateral surface—which Goltz declares may be destroyed in both hemispheres without affecting the auditory sense. More expressly contradictory the results of the two inquirers could not well be on this as on other points.]

Localisation of Function in the Cerebral Cortex.—In a short note reprinted from the *St. Bartholomew Hospital Reports*, vol. xiii, Dr. Ainslie Hollis maintains that in the present state of our knowledge we have only the assurance that there exist in the brain a posterior or retentive system and an anterior or expressive system. The *expressive* system may be said generally to consist of the fronto-parietal convolutions. Of these the parietal convolutions, immediately bounding the great fissure of Rolando, are concerned in the movements of limbs, neck, back, &c.,—that is to say, the *acquired* movements of these parts; for Soltmann and others have found that in the very young, before experience has been acquired, the movements described by Hitzig, &c., as depending on electrisation of these convolutions and no others are not in the same way present. The adjoining frontal convolutions are concerned in the complex symbolic actions of speaking, numbering, writing, &c., as has partly been made out by direct pathological evidence, and partly may be inferred from the greater frontal development in cultured races as compared with savages whose sense-acuteness is not accompanied by the intelligence which involves a highly-developed system of symbolic expressions. What Dr. Ainslie Hollis calls the *retentive* [better, perhaps, the receptive] system consists, he believes, of the posterior or occipito-temporal lobes. He adduces two cases in support of this position. One of these was noted by Dr. Bateman in his essay on Aphasia—that of a gentleman who put vinegar on his food instead of pepper, and said "How bright the poker looks," but adding, when told he meant the fire, "Yes, I mean the fire". Dr. Bateman called this (with some hesitation) a case of anmesic aphasia, supposing that "the idea was conceived but the means of communication with the external world did not exist". But as the autopsy showed that the frontal lobes were perfectly healthy, and only the posterior third of the left hemisphere was diseased, it is rather, Dr. Ainslie Hollis urges, to be supposed that while the power of expression was intact, there was a loss of the power of appreciating or recognising the attributes of objects. His other case is of a letter-sorter who became unable to do his work, first losing, as he declared, the clear mental picture of the position and relation of the openings in his nest of pigeon-holes. Here the disease proved to be tumour in the left temporal lobe. In conclusion the author utters a warning against the attempt to localise in the cortex too closely the several faculties of the mind. "It is preposterous to expect that similar cells are reserved for similar functions in all human brains, knowing what we do of the great diversity in man's mental nature, his various occupations, proclivities, and talents."

The Habits of Ants.—Sir John Lubbock's paper under this title in the *Fortnightly Review* (March, 1877) embodies a number of results obtained by the most careful experimental inquiry, and so to be distinguished from the loose observations on mental life in animals that pass current. His experiments confirm some of the most remarkable assertions that have been made as to the organisation of ant-societies, but on the whole suggest a more sober estimate than is usually taken of the mental capacity of the individual workers.

He finds distinct proof of a differentiation of function among the working members of the communities, not dependent on age or sex. He has satisfied himself that not only are aphides kept for the sake of the sweet fluid they yield but even their eggs are watched over, and, generally, that a great variety of other nest-inmates are entertained for purposes of service. He allows the extreme difference of character in different species, and confirms in particular, as regards one energetic species of slave-makers (*Polyergus rufescens*), the astonishing fact that they rely so much on their captives as to have lost the instinct of feeding and would die but for the care they exact. These and other instances given in the paper of extremely developed function (in the last case turning to weakness) seem to be indubitable facts which must be interpreted as they best may in the light of our other knowledge of animal life.

The specific results of Sir J. Lubbock's original experiments are shortly these. Not the least ingenuity is shown for the saving of time and labour in procuring food: a long roundabout journey continued to be taken when it might have been avoided by the smallest venture across intervening space or the simplest bridge-construction. Still where it was a case of being excluded from food altogether, the ants did succeed in removing a direct artificial obstruction. As to helpfulness, no notice was taken of a friend buried under loose earth, and very rarely was relief afforded to companions in distress (through being smeared with a sticky substance). Hopeless victims of chloroform, at first neglected, were afterwards got rid of by being dropt into water close at hand; but others merely drunk from alchohol were for the most part carried in safety into the nest. These were friends: strangers (from another nest) in the like case were almost all bundled into the water. The distinction otherwise made between friends and strangers was very marked: after months of absence an ant would be re-admitted, if not welcomed back, to its native nest, whereas a stranger would be expelled and be only too glad to make its escape.

As regards the senses, smell was proved to be exceedingly acute. Hearing, if not absent, must be supposed to have a quite different range from ours. Sight, for all the apparent development of eyes, seems to be of little account for the direction of locomotion—certainly plays nothing like the part it does for us in objective perception. Notion of objective direction is absent: they returned always upon their track on a board heedless of its being turned round away from the nest.

There was no evidence (after very careful experiment) of intercommunication to the effect of describing or indicating localities where food was to be had: when numbers come together to the same place, they must be supposed to follow one another by sight or to be guided by scent. Yet there seemed to be somehow a transmission of the simpler notion that more food was to be found in one of two directions than in the other.

EDITOR.

M. Taine on the Acquisition of Language by Children.—M. Taine contributed to the *Revue Philosophique* No. 1. (January 1876) a remarkable series of observations on the development of language in a young child, which are here made accessible by translation to English readers. Such a record has been too rarely attempted, and the psychological value of this one is very evident.

"The following observations were made from time to time and written down on the spot. The subject of them was a little girl whose development was ordinary, neither precocious nor slow.

From the first hour, probably by reflex action, she cried incessantly, kicked about and moved all her limbs and perhaps all her muscles. In the first week, no doubt also by reflex action, she moved her fingers and even grasped for some time one's fore-finger when given her. About the third month she begins to feel with her hands and to stretch out her arms, but she cannot yet direct her hand, she touches and moves at random; she tries the movements of her arms and the tactile and muscular sensations which follow from them; nothing more. In my opinion it is out of this enormous number of movements, constantly essayed, that there will be evolved by gradual selection the intentional movements having an object and attaining it. In the last fortnight (at two and a half months) I make sure of one that is evidently acquired; hearing her grandmother's voice she turns her head to the side from which it comes.

There is the same spontaneous apprenticeship for cries as for movements. The progress of the vocal organ goes on just like that of the limbs; the child learns to emit such or such a sound as it learns to turn its head or its eyes, that is to say by gropings and constant attempts.

At about three and a half months, in the country, she was put on a carpet in the garden; there lying on her back or stomach, for hours together, she kept moving about her four limbs and uttering a number of cries and different exclamations, but vowels only, no consonants; this continued for several months.

By degrees consonants were added to the vowels and the exclamations became more and more articulate. It all ended in a sort of very distinct twittering, which would last a quarter of an hour at a time and be repeated ten times a day. The sounds (both vowels and consonants), at first very vague and difficult to catch, approached more and more nearly to those that we pronounce, and the series of simple cries came almost to resemble a foreign language that we could not understand. She takes delight in her twitter like a bird, she seems to smile with joy over it, but as yet it is only the twittering of a bird, for she attaches no meaning to the sounds she utters. She has learned only the materials of language. (Twelve months.)

She has acquired the greater part quite by herself, the rest thanks to the help of others and by imitation. She first made the sound *mm*

spontaneously by blowing noisily with closed lips. This amused her and was a discovery to her. In the same way she made another sound, *kraaau*, pronounced from the throat in deep gutturals; this was her own invention, accidental and fleeting. The two noises were repeated before her several times; she listened attentively and then came to make them immediately she heard them. In the same way with the sound *papapapa*, which she said several times by chance and of her own accord, which was then repeated to her a hundred times to fix it in her memory, and which in the end she said voluntarily, with a sure and easy execution, (always without understanding its meaning) as if it were a mere sound that she liked to make. In short, example and education were only of use in calling her attention to the sounds that she had already found out for herself, in calling forth their repetition and perfection, in directing her preference to them and in making them emerge and survive amid the crowd of similar sounds. But all initiative belongs to her. The same is true of her gestures. For many months she has spontaneously attempted all kinds of movements of the arms, the bending of the hand over the wrist, the bringing together of the hands, &c. Then after being shown the way and with repeated trials she has learned to clap her hands to the sound *bravo*, and to turn her open hands regularly to the strain *au bois Joliette*, &c. Example, instruction and education are only directing channels; the source is higher.

To be sure of this it is enough to listen for a while to her twitter. Its flexibility is surprising; I am persuaded that all the shades of emotion, wonder, joy, wilfulness and sadness are expressed by differences of tone; in this she equals or even surpasses a grown up person. If I compare her to animals, even to those most gifted in this respect (dog, parrot, singing-birds), I find that with a less extended gamut of sounds she far surpasses them in the delicacy and abundance of her expressive intonations. Delicacy of impressions and delicacy of expressions are in fact the distinctive characteristic of man among animals and, as I have shown (*De l'Intelligence* I. b. i.), are the source in him of language and of general ideas; he is among them what a great and fine poet, Heine or Shakespeare, would be among workmen and peasants; in a word, man is sensible of innumerable shades, or rather of a whole order of shades which escape them. The same thing is seen besides in the kind and degree of his curiosity. Any one may observe that from the fifth or sixth month children employ their whole time for two years and more in making physical experiments. No animal, not even the cat or dog, makes this constant study of all bodies within its reach; all day long the child of whom I speak (at twelve months) touches, feels, turns round, lets drop, tastes and experiments upon everything she gets hold of; whatever it may be, ball, doll, coral, or plaything, when once it is sufficiently known she throws it aside, it is no longer new, she has nothing to learn from it and has no further interest in it. It is pure curiosity; physical need, greediness, count for nothing in the case; it seems as if already in her little brain every group of perceptions was tending to complete itself, as in that of a child who makes use of language.

As yet she attaches no meaning to any word she utters, but there are two or three words to which she attaches meaning when she hears them. She sees her grandfather every day, and a chalk portrait of him, much smaller than life but a very good likeness, has been often shown her. From about ten months when asked "Where is grandfather?" she turns to this portrait and laughs. Before the portrait of her grandmother, not so good a likeness, she makes no such gesture and gives no sign of

intelligence. From eleven months when asked "Where is mama?" she turns towards her mother, and she does the same for her father. I should not venture to say that these three actions surpass the intelligence of animals. A little dog here understands as well when it hears the word *sugar*; it comes from the other end of the garden to get a bit. There is nothing more in this than an association, for the dog between a sound and some sensation of taste, for the child between a sound and the form of an individual face perceived; the object denoted by the sound has not as yet a general character. However I believe that the step was made at twelve months; here is a fact decisive in my opinion. This winter she was carried every day to her grandmother's, who often showed her a painted copy of a picture by Luini of the infant Jesus naked, saying at the same time "There's *bébé*". A week ago in another room when she was asked "Where's *bébé*" meaning herself, she turned at once to the pictures and engravings that happened to be there. *Bébé* has then a general signification for her, namely whatever she thinks is common to all pictures and engravings of figures and landscapes, that is to say, if I am not mistaken, *something variegated in a shining frame*. In fact it is clear that the objects painted or drawn in the frame are as Greek to her; on the other hand, the bright square inclosing any representation must have struck her. This is her first general word. The meaning that she gives it is not what we give it, but it is only the better fitted for showing the original work of infantile intelligence. For if we supplied the word, we did not supply the meaning; the general character which we wished to make the child catch is not that which she has chosen. She has caught another suited to her mental state for which we have no precise word.

Fourteen months and three weeks. The acquisitions of the last six weeks have been considerable; she understands several other words besides *bébé*, and there are five or six that she uses attaching meaning to them. To the simple warbling which was nothing but a succession of vocal gestures, the beginnings of intentional and determinate language have succeeded. The principal words she at present utters are *papa*, *mama*, *tété* (nurse), *oua-oua* (dog), *koko* (chicken) *dada* (horse or carriage), *mia* (puss, cat), *kaka* and *tem*; the two first were *papa* and *tem*, this last word very curious and worth the attention of the observer.

Papa was pronounced for more than a fortnight unintentionally and without meaning, as a mere twitter, an easy and amusing articulation. It was later that the association between the word and the image or perception of the object was fixed, that the image or perception of her father called to her lips the sound *papa*, that the word uttered by another definitely and regularly called up in her the remembrance, image, expectation of and search for her father. There was an insensible transition from the one state to the other, which it is difficult to unravel. The first state still returns at certain times though the second is established; she still sometimes plays with the sound though she understands its meaning. This is easily seen in her later words, for instance in the word *kaka*. To the great displeasure of her mother she still often repeats this ten times in succession, without purpose or meaning, as an interesting vocal gesture and to exercise a new faculty; but she often also says it with a purpose when there is occasion. Further it is plain that she has changed or enlarged its meaning as with the word *bébé*; for instance yesterday in the garden seeing two little wet places left by the watering-pot on the gravel she said her word with an evident meaning; she meant by it *whatever wets*.

She makes imitative sounds with great ease. She has seen and heard

chickens and repeats *koko* much more exactly than we can do, with the guttural intonation of the creatures themselves. This is only a faculty of the throat; there is another much more striking, which is the specially human gift and which shows itself in twenty ways, I mean the aptitude for seizing analogies—the source of general ideas and of language. She was shown birds two inches long, painted red and blue on the walls of a room, and was told once "There are *kokos*". She was at once sensible of the resemblance and for half a day her great pleasure was to be carried along the walls of the room crying out *koko!* with joy at each fresh bird. No dog or parrot would have done as much; in my opinion we come here upon the essence of language. Other analogies are seized with the same ease. She was in the habit of seeing a little black dog belonging to the house which often barks, and it was to it that she first learnt to apply the word *oua-oua*. Very quickly and with very little help she applied it to dogs of all shapes and kinds that she saw in the streets and then, what is still more remarkable, to the bronze dogs near the staircase. Better still, the day before yesterday when she saw a goat a month old that bleated, she said *oua-oua*, calling it by the name of the dog which is most like it in form and not by that of the horse which is too big or of the cat which has quite a different gait.* This is the distinctive trait of man; two successive impressions, though very unlike, yet leave a common residue which is a distinct impression, solicitation, impulse, of which the final effect is some expression invented or suggested, that is to say, some gesture, cry, articulation, name.

I now come to the word *tem*, one of the most remarkable and one of the first she uttered. All the others were probably attributives † and those who heard them had no difficulty in understanding them; this is probably a demonstrative word; and as there was no other into which it could be translated, it took several weeks to make out its meaning.

At first and for more than a fortnight the child uttered the word *tem* as she did the word *papa* without giving it a precise meaning, like a simple twitter. She made a dental articulation ending with a labial articulation and was amused by it. Little by little she associated this word with a distinct intention; it now signifies for her *give*, *take*, *look*; in fact, she says it very decidedly several times together in an urgent fashion, sometimes that she may have some new object that she sees, sometimes to get us to take it, sometimes to draw attention to herself. All these meanings are mixed up in the word *tem*. Perhaps it comes from the word *tiens* that is often used to her and with something of the same meaning. But it seems to me rather a word that she has created spontaneously, a sympathetic articulation that she herself has found in harmony with all fixed and distinct intention, and which consequently is associated with her principal fixed and distinct intentions, which at present are desires to take, to have, to make others take, to look, to make others look. In this case it is a *natural vocal gesture*, not learned, and at the same time imperative and demonstrative, since it expresses both command and the presence of the object to which the command refers; the dental *t* and the labial *m* united in a short, dry, and quickly stifled sound, correspond very well, without convention and by their

* "When the Romans first saw elephants they called them Lucanian oxen. In the same way savage tribes have called horses on seeing them for the first time 'large pigs'." (*Lectures on Mr. Darwin's Philosophy of Language* by Max Müller, p. 48 (1873).

† Max Müller, *Lectures on the Science of Language*, 6th edition. Vol. I. p. 309, 6th ed. The roots of a language are 400 or 500 in number, and are divided into two groups, the attributive and the demonstrative.

nature alone, to this start of attention, to this sharp and decided outbreak of volition. This origin is the more probable that other and later words, of which we shall presently speak, are evidently the work, not of imitation but of invention.*

From the 15th to the 17th month. Great progress. She has learnt to walk and even to run, and is firm on her little legs. We see her gaining ideas every day and she understands many phrases, for instance: "bring the ball," "come on papa's knee," "go down," "come here," &c. She begins to distinguish the tone of displeasure from that of satisfaction, and leaves off doing what is forbidden her with a grave face and voice; she often wants to be kissed, holding up her face and saying in a coaxing voice *papa* or *mama*—but she has learnt or invented very few new words. The chief are *Pa* (Paul), *Babert* (Gilbert), *bébé* (baby), *béé* (goat), *cola* (chocolate), *oua-oua* (anything good to eat), *ham* (eat, I want to eat). There are a good many others that she understands but cannot say, for instance *grand-père* and *grand-mère*, her vocal organs having been too little exercised to produce all the sounds that she knows, and to which she attaches meaning.

Cola (chocolate) is one of the first sweetmeats that was given her and it is the one she likes best. She went every day to her grandmother's who would give her a lozenge. She knows the box very well and keeps on pointing to it to have it opened. Of herself and without or rather in spite of us she has extended the meaning of the word and applies it now to anything sweet; she says *cola* when sugar, tart, a grape, a peach, or a fig is given her.† We have already had several examples of this spontaneous generalisation; it was easy in this instance, for the tastes of chocolate, of the grape, of the peach, &c., agree in this, that being all pleasant they provoke the same desire, that of experiencing once more the agreeable sensation. So distinct a desire or impulse easily leads to a movement of the head, a gesture of the hand, an expression, and consequently to a word.

Bébé. We have seen the strange signification that she at first gave to this word; little by little she came nearer to the usual meaning. Other children were pointed out to her as *bébés*, and she was herself called by the name and now answers to it. Further, when put down before a very low mirror and shown her face reflected in it, she was told "that's *bébé*," and she now goes alone to the mirror and says *bébé*, laughing when she sees herself. Starting from this she has extended the meaning of the word, and calls *bébés* all little figures, for instance, some half-size plaster statues which are on the staircase, and the figures of men and women in small pictures and prints. Once more, education produced an unexpected effect on her; the general character grasped by the child is not that which we intended; we taught her the sound, she has invented the sense.

Ham (eat, I want to eat). Here both sound and sense were invented. The sound was first heard in her fourteenth month. For several weeks I thought it no more than one of her warblings, but at last I found

* A neighbour's little boy had at twenty months a vocabulary of seven words, and among them the word *ça y est*, somewhat analogous to *tem*, and like it untranslateable into our language, for he used it to say *there, I have it, it's done, he has come*, and meant by it the completion of any action or effect.

† In the same way the above-mentioned little boy of twenty months used the word *téterre (pomme de terre)* to designate potatoes, meat, beans, almost everything good to eat except milk, which he called *lolo*. Perhaps to him *téterre* meant everything solid or half solid that is good to eat.

that it was always produced without fail in presence of food. The child now never omits to make it when she is hungry or thirsty, all the more that she sees that we understand it, and that by this articulation she gets something to eat or drink. On listening attentively and attempting to reproduce it, we perceive that it is the *natural vocal gesture* of a person snapping up anything; it begins with a guttural aspirate like a bark, and ends with the closing of the lips as if food were seized and swallowed. A man among savages would do just the same, if with tied hands and solely dependent for expression upon his vocal organs he wished to say that he wanted food. Little by little the intensity and peculiarity of the original pronunciation were lessened; we had repeated her word but in a milder form; consequently she left off making so much of the guttural and labial parts, and the intermediate vowel came to the front; instead of *Hamm* she says *am*, and now we generally use the word as she does. Originality and invention are so strong in a child that if it learns our language from us, we learn its from the child.

Oua-oua. It is only for the last three weeks (the end of her sixteenth month), that she has used this word in the sense of something good to eat. It was some time before we understood it, for she has long used it and still uses it besides in the sense of dog. A barking in the street never fails to call forth this word in the sense of dog, uttered with the lively joy of a discovery. In the new sense the sound has oscillated between *va-va* and *oua-oua*. Very likely the sound that I write *oua-oua* is double to her according to the double meaning she attaches to it, but my ear cannot catch the difference; the senses of children, much less blunted than ours, perceive delicate shades that we no longer distinguish. In any case, on seeing at table a dish she wishes for, she says *oua-oua* several times in succession, and she uses the same word when, having eaten some of it, she wishes for more, but it is always in presence of a dish and to point out something eatable. By this the word is distinguished from *am* which she only uses to make known her want of food, without specifying any particular thing. Thus, when in the garden she hears the dinner-bell she says *am* and not *oua-oua;* on the other hand, at table before a cutlet she says *oua-oua* much oftener than *am*.

For the last two months, on the other hand, she has left off using the word *tem* (give, take, look) of which I spoke above, and I do not think she has replaced it by another. This is no doubt because we did not choose to learn it, for it did not correspond to any one of our ideas, but combined three that are quite distinct; we did not use it with her and therefore she left off using it herself.

On summing up the facts I have just related we arrive at the following conclusions, which observers should test by observations made on other children.

At first a child cries and uses its vocal organ, in the same way as its limbs, spontaneously and by reflex action. Spontaneously and from mere pleasure of action it then uses its vocal organ in the same way as its limbs, and acquires the complete use of it by trial and error. From inarticulate it thus passes to articulate sounds. The variety of intonations that it acquires shows in it a superior delicacy of impression and expression. By this delicacy it is capable of general ideas. We only help it to catch them by the suggestion of our words. It attaches to them ideas that we do not expect and spontaneously generalises outside and beyond our *cadres*. At times it invents not only the meaning of the word, but the word itself. Several vocabularies may succeed one another in its mind by the obliteration of old words, replaced by new

ones. Many meanings may be given in succession to the same word which remains unchanged. Many of the words invented are natural vocal gestures. In short, it learns a ready-made language as a true musician learns counterpoint or a true poet prosody; it is an original genius adapting itself to a form constructed bit by bit by a succession of original geniuses; if language were wanting, the child would recover it little by little or would discover an equivalent.

These observations were interrupted by the calamities of the year 1870. The following notes may help to determine the mental state of a child; in many respects it is that of primitive peoples at the poetical and mythological stage. A jet of water, that the child saw under the windows for three months, threw her every day into new transports of joy, as did also the river under a bridge; it was evident that sparkling running water seemed to her to be of extraordinary beauty. "*L'eau, l'eau!*" she goes on exclaiming (twenty months). A little later (two and a half years) she was very much struck by the sight of the moon. She wanted to see it every evening; when she saw it through the window-panes there were cries of joy; when she walked it seemed to her that it walked too, and this discovery charmed her. As the moon according to the hour appeared in different places, now in front of the house now behind it, she cried out "Another moon, another moon!" One evening (three years) on inquiring for the moon and being told that it had set *(que'elle est allée se coucher)* she replies "But where's the moon's *bonne?*" All this closely resembles the emotions and conjectures of primitive peoples, their lively and deep admiration for great natural objects, the power that analogy, language and metaphor exercise over them, leading them to solar and lunar myths, &c. If we admit that such a state of mind was universal at any time, we could at once divine the worship and legends that would be formed. They would be those of the *Vedas*, of the *Edda* and even of Homer.

If we speak to her of an object at a little distance but that she can clearly represent to herself from having seen either it or others like it, her first question always is "What does it say?"—"What does the rabbit say?"—What does the bird say?"—"What does the horse say?"—"What does the big tree say?" Animal or tree, she immediately treats it as a person and wants to know its thoughts and words; that is what she cares about; by a spontaneous induction she imagines it like herself, like us; she humanises it. This disposition is found among primitive peoples, the more strong the more primitive they are; in the *Edda*, especially in the *Mabinogion*, animals have also the gift of speech; the eagle, the stag and the salmon are old and experienced sages, who remember bygone events and instruct man.*

It takes much time and many steps for a child to arrive at ideas which to us seem simple. When her dolls had their heads broken she was told that they were dead. One day her grandmother said to her, "I am old, I shall not be always with you, I shall die". "Then shall you have your head broken?" She repeated this idea several times and still (three years and a month) with her 'to be dead' is to have the head broken. The day before yesterday a magpie killed by the gardener was hung by one foot at the end of a stick, like a fan; she was told that the magpie was dead and she wished to see it. "What is the magpie doing?" "It is doing nothing, it can't move, it is dead." "Ah!" For the first time the idea of final immobility entered her head. Suppose a people to stop short at this idea and not to define death otherwise; the other world would be to it the *scheol* of the Hebrews, the place where

* Similarly she says, "My carriage *won't* go, it is *naughty*".

the immoveable dead live a vague, almost extinct life. *Yesterday* means to her *in the past*, and *to-morrow—in the future*, neither of these words denoting to her mind a precise day in relation to to-day, either preceding or following it. This is another example of too extended a meaning, which must be narrowed. There is hardly a word used by children which has not to undergo this operation. Like primitive peoples they are inclined to general and wide ideas; linguists tell us that such is the character of roots and consequently of the first conceptions as they are found in the most ancient documents, especially in the *Rig-Veda*.

Speaking generally, the child presents in a passing state the mental characteristics that are found in a fixed state in primitive civilisations, very much as the human embryo presents in a passing state the physical characteristics that are found in a fixed state in the classes of inferior animals."

IX.—NOTES.

The Meaning of 'Existence' and Descartes' 'Cogito'.—In dealing with very difficult abstractions, logicians inculcate the practice of resolving them into the corresponding particulars. The prescription is well put by Samuel Bailey thus:—

"If the student of philosophy would always, or at least in cases of importance, adopt the rule of throwing the abstract language in which it is so frequently couched into a concrete form, he would find it a powerful aid in dealing with the obscurities and perplexities of metaphysical speculation. He would then see clearly the character of the immense mass of nothings which constitute what passes for philosophy."

Certain abstractions are difficult to handle from their complexity; such is 'Life'. The rule to refer to the particular things is especially called for in this case. Less complex is the notion of 'Force'; still the particulars are so different in their nature, that we must be sure to represent all the classes—mechanical or molar forces, molecular forces, and the forces of voluntary agents. The danger here is that we coin an abstraction distinct from matter altogether, like Plato's 'Ideas' and Aristotle's 'Form'.

If any abstract notion stands in need of all the aids that logic can supply, it is 'Existence'. Try it then by the method of particulars. What are the things that are said to exist? There is no difficulty in finding such things; stars, seas, mountains, minerals, plants, human beings, kingdoms, cities, commerce,—exist. It is not for want of particulars, therefore, that we are in any doubts about the meaning of 'Existence'; it is rather for the opposite reason—we have too many particulars. In fact, the word 'exist' means everything, excludes nothing. In all other notions, there is a division of the universe into objects possessing the attribute, and objects devoid of it; 'Life' both includes and excludes. But 'Existence' is the entire Universe—extended and unextended, matter and mind. Is there not a risk that when you mean everything, you mean nothing?

I have maintained (*Deductive Logic*, p. 59) that 'Existence' is an unreal notion, for the very reason that it has no real negative. According to the Law of Universal Relativity, the *summa genera* of things must be at least two: say mind and not-mind, subject and object. We may in form put the two into one sum, and give it a name 'Existence,' but we cannot thereby construct a new meaning. There still remain the two distinct genera, in mutual contrast.

On this ground, I argued (p. 107) against Mill's including 'Existence' among the Universal Predicates, in the final Import of Propositions. My purpose requires me to quote the passage:—

"With regard to the predicate EXISTENCE, occurring in certain propositions, we may remark that no science, or department of logical method springs out of it. Indeed, all such propositions are more or less abbreviated, or elliptical; when fully expressed they fall under either co-existence or succession. When we say, There *exists* a conspiracy for a particular purpose, we mean that, at the present time, a body of men have formed themselves into a society for a particular object; which is a complex affirmation resolvable into propositions of co-existence and of succession (as causation). The assertion that the dodo does not exist, points to the fact that this animal, once known in a certain place, has disappeared or become extinct; is no longer associated with the locality: all which may be better stated without the use of the verb 'exist'. There is a debated question—Does an Ether exist? but the correcter form would be this—Are heat and light and other radiant influences propagated by an ethereal medium diffused in space? which is a proposition of causation. In like manner the question of the Existence of a Deity cannot be discussed in that form. It is properly a question as to the First Cause of the Universe, and as to the continued exertion of that Cause in providential superintendence."

Fortunately, Mill has furnished us with his reply in the latest edition of his *Logic*, Vol. I., p. 113, n., as follows:—

"I accept fully Mr. Bain's Law of Relativity, but I do not understand by it that, to enable us to apprehend or be conscious of any fact, it is necessary that we should contrast it with some other positive fact. The antithesis necessary to consciousness need not, I conceive, be an antithesis between two positives; it may be between one positive and its negative. Hobbes was undoubtedly right when he said that a single sensation indefinitely prolonged would cease to be felt at all; but simple intermission, without other change, would restore it to consciousness. In order to be conscious of heat, it is not necessary that we should pass to it from a state of no sensation, or from a sensation of some other kind. The relative opposite of Being, considered as a *summum genus*, is Non-entity, or Nothing; and we have, now and then, occasion to consider and discuss things merely in contrast with Non-entity.

"I grant that the *decision* of questions of Existence usually if not always depends on a previous question of either Causation or Co-existence. But Existence is nevertheless a different thing from Causation or Co-existence, and can be predicated apart from them. The meaning of the abstract name of Existence, and the connotation of the concrete name Being, consist, like the meaning of all other names, in sensations or states of consciousness: their peculiarity is that to exist, is to excite, or be capable of exciting, *any* sensations or states of consciousness: no matter what, but it is indispensable that there should be some. It was from overlooking this that Hegel, finding that Being is

an abstraction reached by thinking away all particular attributes, arrived at the self-contradictory proposition on which he founded all his philosophy, that Being is the same as Nothing. It is really the name of Something, taken in the most comprehensive sense of the word."

The contention here is that the Law of Relativity is sufficiently complied with, through the alternative notion expressed by Non-entity, or Nothing. From this I must still dissent. But I am more concerned at present with Mill's account of the positive meaning of the term, namely, whatever excites in us "any sensations or states of consciousness, no matter what". In other words, when we cannot say of anything that it is either Object or Subject, but still treat it as a reality, we may use the supra-relative terms, 'existence,' 'thing,' 'being'. Now I grant that the occasion may arise for stating a thing in this uncertain fashion; and that a word may be suitably employed for that purpose. But this is different from stating a property common to Object and Subject, and coining a higher genus including both, in the same way that Object includes, as sub-genera, Matter and Space. I regard 'Existence' employed in this way, as having no separate or original meaning; it is merely a short synonym for a complex alternative given in terms of the two highest genera that possess reality—Object and Subject. I contend, in short, that for the meaning of 'Existence,' we need always to refer to some of the other attributes of things; that, as an independent attribute, it is devoid of all real standing.

There must be a certain convenience in the term, otherwise it would not be so often employed in everyday life. I can only repeat my view, that it is an *elliptical* term; it expresses shortly and yet sufficiently, what many words might be needed to express fully. When we ask, Does such a thing exist? we imply a definite set of conditions of time, place, and circumstance. Does there *exist* a cure for hydrophobia? means when fully stated—Will any substance or application, known or accessible to us, cure hydrophobia? There is no meaning specific to the word 'Existence'; what it signifies is already amply expressed in other forms.

To come to the greatest example of all—Being or Existence, as applied to the Deity. Theologians habitually employ the couple—Being and Attributes of God. This seems all very natural. We have first to ask whether there be a God, and, that decided in the affirmative, we next inquire what are His Attributes. On the surface, nothing could be more plausible than this arrangement. It lays down 'Being' or 'Existence' as a fact by itself, apart from every Attribute whatsoever. The natural theologian must substantiate Existence before he venture on any inquiry as to Eternity, Infinity, Wisdom, Power, Goodness. Let us, however, look a little below the surface. After putting forward 'Being' as the thesis, how does the Theologian proceed to establish it? There is a singular uniformity of procedure on the point, so that there is no need to make many references. I will take, as a representative, one of the acutest minds that ever discussed this or any other theological thesis—Thomas Brown. The

habit is to preface the arguments for 'Being' with a re-statement of the position in expanded phraseology: thus says Brown, the proof of the Existence is the proof of "a Creator and Preserver of the Universe". In short, the real inquiry is, how did the Universe commence, and how is it maintained and controlled? More familiarly, it is stated as the question of a First Cause.

If we were to be hypercritical, we might say that the division by theologians into 'Being' and 'Attributes' is faulty, in respect that 'Being' really means two of the 'Attributes'—Creative Agency and Providential Control—these two implying a good deal more, namely, duration in the past (not inaptly called Infinite), extent of agency over space, likewise so vast as to admit the same epithet, together with power and wisdom, on a par with the work involved. We might undoubtedly reserve the *moral* Attributes for a second head; but the first head 'Being' inevitably contains all those now named. Thus, supposing the words 'Being,' 'Existence,' were entirely discarded, there would be nothing lost. The line of argument would be exactly what we now find it. To recur to Brown's treatment. He, as we might expect, scouts the figment of language—'Necessary Existence'; and proceeds, upon the usual argument from Design, to show that the Universe originated with a Mind. This is the real position concealed under the title 'Existence'. Brown's second branch—the 'Attributes'—comprises Unity, Wisdom, Power, Goodness. The proof of these is pretty much a repetition, or at all events, an extension and exhaustion of the argument from Design. If we establish a Mind as the First Cause, we must ascribe to that Mind an amount and character of efficiency comparable to the effect, which is all that is meant by the Attributes.

Dugald Stewart introduces natural theology with the question—"Whence am I, whence the tribes of plants and animals, whence the beautiful fabric of this Universe?" He then uses as a convenient abbreviation—"proof of the existence of the Deity"; otherwise, "the existence of an intelligent and powerful cause from the works of creation". So it always is. We may state the question as 'Being' or 'Existence,' but we must prove it as *Cause and Effect*. Here is another variety of wording—"There is a Divine Being, whose essence is love, grace, and mercy". The expression "Divine Being" is a short summary of all the natural attributes, and the intention of the speaker is to join with these the moral attributes. There is no such thing as Existence in the abstract.

I do not mean to discuss Descartes' mode of establishing Theism, but I may refer to his handling of the question to show that by the existence of God he means the First Cause of the world. "By the name God, I understand a substance infinite, independent, all-knowing, all-powerful, and by which myself and all other things were created." The proof is still a proof from Causation, and the idea has no other significance.

I come now to the formula—'*Cogito, ergo sum*'. Mr. Matthew Arnold's criticism of this formula is expended on the '*sum*'. He is

unable to assign any distinct meaning to 'Being' or 'Existence'; and therefore professes himself unable to comprehend the demonstrations given by theologians in general of the existence of God. Partly in earnest, and partly in his inimitable banter, he goes after the etymology of the word 'be,' and the other synonyms. Sometimes, indeed, a reference to the origin of an obscure word throws a light upon the present meaning; the connection of 'just' with 'ordered' has a certain significance. But the great metaphysical abstractions are expressed by terms whose origin only reveals a metaphor. That 'be' signifies to 'breathe' really teaches nothing at all; we could not substitute 'breathing' for 'being'. Mr. Arnold knows well enough that etymology is not likely to solve any serious problem. His more direct course would have been to ask what other things, besides God, 'Being' or 'Existence' is applied to. Present use is the only criterion of meaning. If he had followed this inquiry, he would have encountered the real difficulty, namely, that the word means anything and everything.

How then shall we deal with 'I think, therefore, I exist'? Is 'exist' here elliptical, and, if so, what is the full expression? One would like to have had some various wording of the inference, that would answer the same purpose as the equivalents of the 'Existence' of the Deity. But we have no such help in the present instance. If 'exist' meant to 'live' as opposed to 'death,' the argument would have some meaning, but that is not intended. We may, however, fall back upon Mill's equivalent term—'Something'. It would then be—'I think, therefore, I am something'. I have already admitted that 'Existence' would have meaning in the form of an alternative—either Subject or Object, we do not say which: there being no reality but what is one or other. This is an equivalent of 'something'. The form would then be—'I think, therefore, I am either Subject or Object'. A worse than an undecided inference; for whoever knows the meaning of the word 'think' must know that it is a mental quality; and to throw the question open, whether it be mind or not-mind, is not to go forward, but to go backward; not to extend our knowledge, but to contract it.

The assertion 'I think' would seem, therefore, to entitle us to say at least, 'I am mind'; 'I am not the opposite of mind,' 'I am a definite or precise something,' which is much better for me than being an indefinite or alternative something. To be sure, the inference is unreal; the meaning of 'think' contains the meaning of 'mind,' if we know what thinking is, that is, if we are using the word with a consciousness of meaning. A real inference might be constructed thus: 'I think, therefore I feel, and also will'; experience shows that these three facts are always associated; the association receiving the name 'Mind'.

Another real inference is 'I think, therefore I am not brute matter'; also the fruit of our experience of the kind of organisation that thinking is allied with. But the proposition 'I think' may itself be subjected to analysis and criticism, which will illustrate

farther the illogical character of the whole transaction. Let us separate the proposition into its two parts—subject and predicate; let us inquire what is the precise meaning of the subject, and what of the predicate: we then discover whether it is a real proposition, whether the predicate *adds* anything to the subject. What is 'I'? The answer must be, all that is included in the terms 'man' or 'human being'—all the parts and functions of body and mind that go to make up an individual man or woman. Consequently to say 'I think' is mere redundancy; whoever understands 'I' already knows that much; it is only repeating a part of the meaning of the subject of the proposition. In short, it is a mere verbal or analytic proposition; it may serve a purpose, but that purpose is not to found an inference.

On the whole, as to the '*Cogito, ergo sum*,' I am of opinion that we should cease endeavouring to extract sunbeams from that cucumber.

A. Bain.

The Logic of "If."—I have lately come across a passage in *Clarissa Harlowe* where Richardson indicates with great clearness a distinction which has long seemed to me to be overlooked by logicians in their treatment of Hypothetical Syllogism. It is in the admirable scene where Morden and Lovelace are first brought together and runs thus:—Morden. "But *if* you have the value for my cousin that you say you have, you must needs think"— Lovelace, "You must allow me, sir, to interrupt you. *If* I have the value I *say* I have. I hope, sir, when I *say* I have that value, there is no cause for that *if*, as you pronounced it with an emphasis." Morden. "Had you heard me out, Mr. Lovelace, you would have found that my *if* was rather an *if* of inference than of doubt."

The question has been much debated among logicians whether the so-called Hypothetical Syllogism of this type

If A is B, C is D
But A is B
∴ C is D

is a *mediate* inference like the common Categorical Syllogism, or whether the conclusion is not *immediately* drawn from the one premiss 'If A is B, C is D'. Prof. Bain, for example, (*Logic* I. p. 116), would deny that the reasoning is mediate, and the reader may consult his work for a short summary of the different arguments urged by Mansel and other distinguished logicians on the same side of the question. Some of the arguments, indeed, are too plainly defective, as when Mansel declares that in the Hypothetical Syllogism "the minor (A is B) and the conclusion (C is D) indifferently change places and each of them is merely one of the two members constituting the major"—which is not the case in Categorical Syllogism. Here he commits a very great blunder, since it is notorious that 'A is B' cannot be got as a conclusion with 'C is D' as second premiss. However the whole weight of authority in favour of the inference being *immediate* is undoubtedly great, and if one takes the other view, some

explanation must be found for the strong array of opinion that may be cited against it.

It seems obvious enough that when the proposition 'If A is B, C is D' is uttered as a pure hypothesis—the *if*, as Richardson expresses it, being one of *doubt*—it is not possible to pass directly to the assertion that 'C *is* D'. This can be reached only through the other assertion 'A *is* B'; and what is the reasoning then but *mediate?* If the conclusion, which is quite a different proposition from the original datum, is here not mediately reached, there is no such thing as mediate reasoning in categoricals. Whatever meaning there is in saying that given 'M is P,' we arrive at the different proposition 'S is P' only mediately—through 'S is M,' there is as much meaning in saying the like of 'C is D' obtained as a positive assertion from the supposition 'If A is B, C is D' only *through* the positive assertion 'A is B'. For that matter, the categorical major 'M is P' can itself be expressed as a hypothetical 'If M, then P'; then follows in the minor an assertion of M (namely S); whence as the conclusion an assertion of P. The only *immediate* inferences that can be drawn from the purely hypothetical proposition 'If A is B, C is D' must themselves be hypothetical. These namely follow: 'If C is not D, A is not B,' 'In some case (at least once) where C is D, A is B'—the logical contrapositive and converse respectively of the original. But these are utterly unlike the conclusion 'C *is* D' got from the same hypothesis *through* the assertion 'A *is* B'.

With what reason, then, can it in any case be maintained that 'C is D' is *immediately* got from 'If A is B, C is D'? With very good reason, when *if*, instead of meaning *suppose that*, is used for *since*, *seeing that*, or *because*. It is plain that the original proposition may be thus understood: 'Since A is B, C is D'. Or take a material case. 'If it rains, the street is wet,' interpreted strictly as a bare supposition, can never of itself lead to the categorical assertion 'The street *is* wet' (as a matter of fact): it only involves immediately such other suppositions as these—'If the street is not wet, it does not rain, 'If the street is wet, it may be from rain'. But the same expression is also used on a very different occasion: 'It rains (do you say?), why then of course the street is wet,' 'To be sure the street is wet, for does it not rain'? 'No doubt, as it rains, the street is wet'. Here we know *immediately* that 'the street is wet' (or C is D), for this is the assertion in the proposition; and the *If*-clause is not proposed as a possible ground for a conclusion, but is stated shortly as the actual reason of a fact. When expanded, it corresponds not to the first premiss of the Hypothetical Syllogism, but to the *two* premisses together. That is to say, if the clause is regarded as containing a supposition at all, it contains, besides the formal supposition 'If A is B, C is D,' the positive assurance 'A is B'. Of course from the two premisses thus *taken together*, the conclusion 'C is D' follows at once or immediately; but the same is true of the conclusion of a Categorical Syllogism as following from its *two* premisses. Now, when *if* thus covers an assertion of fact within a supposition, it may be called, as by Richardson, an *if*

of inference, as containing the whole reasoned ground of the last clause in the sentence. But such a sentence is no longer the 'hypothetical proposition' of logic—that kind of thought-utterance which, though it has a different form, is as simple as the simplest categorical proposition, seeing (as before suggested) there is no categorical proposition which may not be expressed as a hypothetical, and *vice versâ*.

The true and simple sense of *If* in the antecedent part of a purely hypothetical proposition may be otherwise brought out by considering its analogy with the subject in a categorical. Take a proposition in Euclid. It is exactly the same whether we say, 'The angles at the base of an isosceles triangle are equal,' or 'If a triangle is isosceles, the angles at its base are equal'; and Euclid, like everybody else, falls as readily into the one expression as the other. Now to suppose that the consequent in this pure hypothetical is immediately given with the antecedent or follows from it directly, can amount only to saying that the predicate (in the categorical expression) is directly implied in the subject; or, in other words, that the proposition is analytic. But it is, as we know, in this case synthetic, and to bring about the synthesis, an express proof is necessary. Just so we must not think of getting the consequent of a pure hypothetical from the antecedent except in the case where there is direct implication, as 'If triangle, then trilateral'.

It is worth while adding in this connection that the other form of proposition ranged by logicians with the Hypothetical, namely the Disjunctive, may be shown to be as simple as the pure Hypothetical being in fact a special case of it. The common view is that it involves at least two hypothetical propositions, or, as some say, even four. Thus 'Either A is B or C is D' is resolved by some into the four hypotheticals—

If A is B, C is not D (1)
If A is not B, C is D (2)
If C is D, A is not B (3)
If C is not D, A is B (4)

—but the first and third of these are rejected by others, and with reason, because they are in fact implied only when the alternatives are logical opposites. The remaining propositions (2) and (4) are, however, the logical contrapositives of one another; and this amounts to saying that either of them *by itself* is a full and adequate expression of the original disjunctive. EDITOR.

Hedonism and Ultimate Good.—Any objection made by Mr. Henry Sidgwick to any statement of mine causes me great searchings of heart. When I found, therefore, from the last number of MIND (p. 36) that a passage, which he quoted from my *Introduction to Hume*, represented to him only the "metaphysical whim of a scholastic philosopher," I anxiously reconsidered it. Being still unable, however, to escape from the conclusion at which I had arrived when I wrote it, I would fain hope that, upon a fuller and clearer statement, the doctrine advanced, whether 'metaphysical' or

otherwise, may approve itself more to Mr. Sidgwick's judgment. If room for such a statement can be afforded me, I shall be very grateful.

To any one who will take the trouble to look at the whole context of the passage in question it will be clear that it relates, not to any possible sense which the phrase 'greatest sum of pleasures' may be made to bear, but to the sense which it must bear if it is plausibly to do duty as representing the 'summum bonum'. It is not of course intended to deny that it may be used to mean something which is not an 'unreal abstraction'. The question is as to its use by those writers who take it to represent the chief good or moral standard. Are they not, in so taking it, of necessity trying to give it a sense which is nonsense? It is no doubt legitimate to talk of a constant repetition of pleasure, or of being pleased as often as possible; and if, when it is said that every one desires the greatest possible sum of pleasures, no more is meant than that every one wishes to be pleased as often as possible, though the truth or importance of the proposition may be questioned, it certainly has a meaning—as much at any rate as the statement (to use Mr. Sidgwick's illustration) that a man desires 'length of days,' in the sense that he wishes to live as long as he can. To a man, however, who expressed a wish to be pleased as often as possible it would be well to point out—however stale the observation may be—that he cannot accumulate pleasures; that, if he experiences a pleasure every hour for the next 50 years, he will have no more in possession, and will be in no better state, than if he is pleased the next minute and then comes to an end. In being told this, he would be told what, I suppose, is not merely true but a truism: yet it might lead him to reflect on the wisdom of his wish. It might even lead him to ask himself whether he really entertained it or whether, in saying that he did so, he was not misinterpreting the fact either that he finds himself (if it be so) constantly desiring some particular pleasure or that he desires to be in a state of mind and character in which activity is unimpeded.

If, after thus reflecting, he were told by a moral philosopher that in wishing for any particular pleasure he is wishing for what is good, but that only in wishing to be pleased as often as possible is he wishing for the chief good, he would probably ask the philosopher two questions: (1) whether by the chief good he means a state of consciousness; to which, I suppose, the philosopher, if he has read Mr. Sidgwick on the 'summum bonum,' will reply in the affirmative; (2) how, as representing a state of consciousness, to be pleased *as often as possible* differs from the simple *to be pleased*. Supposing that, according to the laws of nature, the greatest number of experiences of pleasure possible to AB is x, AB's state of consciousness in the way of pleasure, when the full number x is completed, does not differ (except possibly for the worse through satiety) from what it was when the number stood at x—1000, or at x—50,000. If then the chief good is a state of consciousness, there is no reason for saying that it is any more attained when x has been reached than upon the first of the pleasant experiences which make up that number. There is sense, then, in

saying that each pleasure as it comes is good; but, if the good is a state of consciousness, none in saying that to be pleased any number of times or 'as often as possible' is the chief good, or more of a good than to be pleased once. A 'chief good' has no meaning unless it professes to be something of which some being can be conceived in possession, and by approximation to which the state of a moral agent may be estimated. But a chief good, that consists in being pleased as often as possible, is one of which no one can be conceived in possession and to which as a state of consciousness no one is nearer at one time than at another.

Finding it impossible to give meaning to the proposition that the chief good is the greatest possible sum of pleasure, if taken in the sense that the chief good, as a possible state of being, consists in being pleased as often as possible, the Hedonist may try either of two ways of escape. He may give up the notion that the chief good represents a state of consciousness at all, and explain the proposition as follows. 'It is open to a man according to the laws of nature to be pleased a certain number of times. The chief good would be attained if every one were pleased that number of times, and is approached in proportion as the number is more nearly reached. It serves as the moral criterion in the sense that an act is good according as it contributes to such attainment.' Thus explained the proposition would challenge further questions. (1) With what significance can we speak of a 'chief good' which, in ceasing to be regarded as a possible state of being or consciousness, ceases to be a possible object of desire? Does not the meaning, which every one recognises in the statement that pleasure is a good, in the sense that pleasure is desired, disappear when along with the substitution of 'chief good' for a good we have to substitute for pleasure the fact of having been pleased an indefinite number of times? (2) Of what value, as a criterion of action, is an end to which our approximation is wholly unascertainable except in the sense that, on the supposition of there being no pleasure after death, we must be getting nearer it every day of our lives? Of any man, clearly, till we can be 'certified how long he has to live,' we have no means of knowing whether he is near or far off the consummation of having been pleased as often as possible. Can we, however, say of any of his acts that they help him to experience, or tend to abridge, the full number of pleasures which 'nature' leaves it open to him to attain? According to the doctrine of volition which Hedonistic philosophers generally adopt it is difficult to say that any one, under all the conditions, could have gained more pleasures than his actions have brought him. At any rate, whatever our doctrine on this point, not knowing how long it may be physically possible for the man to live or how many pleasures it may be possible for him to get into a given time, we are not able to conjecture what the number of pleasures which nature allows him may be nor, in consequence, whether any action detracts from that number or no—whether in his case conduct on the plan of 'a short life and a merry one,' or on the contrary method, contributes most to the 'chief good'.

Hedonism in short, logically leaves no 'chief good' at all, but the Hedonistic moralist, not being able to do without it, is apt to seek the other way of escape to which I have referred. Retaining the view of the 'chief good' as a state of consciousness, he makes it consist not in the being pleased as often as possible, understood in the sense which we have been so far considering, but in a 'greatest possible sum of pleasures,' taken in the sense which I venture to describe as intrinsically nonsense, *viz.*, as an accumulation of enjoyments, which, all together, must be more of a good than any one of them or than any smaller sum and which thus, all together, form the 'chief good'. This is an absurdity because for the consciousness of the pleased person, or in relation to his capacity for enjoyment, in which relation alone pleasures are called good, they cannot form a sum. Each is over when the other begins. It is only as counted, not as enjoyed, that they accumulate, and when we speak of them as together constituting the chief good, we are confusing a sum of numeration with a sum of coexistence or enjoyment.

Thus to the person who says that the greatest sum of pleasures is the chief good we may offer two alternatives. Either the subject of his proposition is (as a German might say) an *Unding* or the predicate is inappropriate. If by the 'sum of pleasures' he means an accumulation of pleasures for consciousness, the absurdity lies in the subject of the proposition. Though, if there could be such a thing, there might be sense in calling it the chief good, there can be no such thing. If, on the other hand, by the 'greatest sum of pleasures' he means the being pleased as often as possible without implication of any coexistence of pleasures, he is giving sense to the subject of his proposition at the expense of what he predicates of it. There is no ground for distinction between the sum of pleasures, thus understood, as the *chief* good and any particular pleasure as good. The moral criterion has disappeared.

T. H. Green.

Happiness or Welfare.—Replies and rejoinders are, as a rule, the least profitable form of discussion; but an exception may perhaps be admitted in cases where the discussion is not a controversial one, and I therefore venture to say a few words in answer to Mr. Sidgwick's remarks in Mind, No. V., p. 34. Mr. Sidgwick puts forward a neatly constructed dilemma which, if the good old ways of philosophical discussion were still in use, might have been expanded into a sarcastic pamphlet and entitled "A Short Way with the Darwinians". He says in effect: "You maintain that the ethical end is not Happiness, a function of Pleasure, but Welfare, a function of Preservation. You likewise admit that you are not ready with a definition of Welfare: therefore either you are at sea altogether, having not even a proximate definition, or you must, notwithstanding your protests, reduce the notion of Welfare to that of 'being with the promise of future being'. But this latter alternative is absurd: on the whole, therefore, you have no standing ground." Now I do not accept the dilemma, for this

short reason: Welfare I cannot define, Happiness (whatever strict utilitarians may feel themselves capable of accomplishing) I cannot define either. Nevertheless the terms do stand for notions which beyond question exist in our minds, and which, as I venture to think, are clear enough to be sufficient guides to action. Moreover the two notions are so far equivalent that at present the distinction between them may for all purposes of action be neglected. Hence we can accept Utilitarianism as a working method good and sufficient as far as it goes, and can afford to wait with equanimity for the time when definition shall be attainable. This is the answer to the first branch of the dilemma; we are not cast adrift, because we practically go along with Mr. Sidgwick. Indeed, our acceptance of Utilitarianism is hardly less complete than his. For Mr. Sidgwick himself, unless he has changed his mind since he wrote the last chapter of his *Methods of Ethics*, is an utilitarian on practical rather than dialectical grounds. Besides, we are in any case no worse off than the thousands of our fellow-citizens, including not a few of the most virtuous, learned, and eminent of mankind, who go through the duties of life without any moral philosophy at all. The proposed dilemma seems to me to smack a little of the fallacy that one must be a moral philosopher in order to be a good man: a fallacy which, though not of the most uncommon, I am sure Mr. Sidgwick is very far from intending to countenance.

As to 'being with the promise of future being,' it seems to me not very intelligible, and certainly inadequate, as an object of rational desire. One can easily conceive cases where the question "to be or not to be" would become at least doubtful; I mean for a society rather than for an individual. Suppose a small body of civilised men hopelessly cut off in a desert in such wise that their only chance of living is to sink to the level of savages: is it worse for them to die as civilised men than to live and be even as Bushmen? Again, is it worse for a people who have known freedom to be exterminated than to be enslaved? I do not say the answer is clear, nor stop to discuss it; a fair doubt is enough. We know, in fact, that a species or a tribe may be preserved by becoming degraded. The bare physical preservation of the species does not come up to the notion of welfare or well-being. The preservation which is the condition of Welfare is not mere persistence, but persistence by means of development in fixed directions which are given by the past experience of the race. At the same time, *well*-being demands *being*, and there is a race-instinct, *conatus*, or what else it may be called, in all living things, which in conscious agents appears as a love of life for its own sake. Better to be a thrall on earth than king of all Hades, said the men of the Homeric time; and much human action of great importance is still founded on the belief that most men at most times will choose a very hard, poor, and joyless life—in short, unhappiness—rather than no life at all. The facts may, no doubt, be stated in hedonistic language; or the hedonistic interpretation of them may even be made, as it was by Strauss, a short cut to optimism: if it is a bad world, why

do those who call it so choose to stay in it? But in this way of putting the matter the true significance of it is, I think, obscured.

Mr. Sidgwick's question may be framed, however, in a different and perhaps a more forcible manner, thus: You say that Welfare or Well-being is not Being simply, but Being with some as yet unspecified *differentia*. Is not that *differentia* really Pleasure, and your doctrine an implicit Hedonism? This seems to require farther consideration. A complete answer I am not prepared to give, my position being that no such answer is yet possible. Still, it seems to me that pleasure, however closely it may accompany the things in which we feel that happiness consists, is rather an index of well-being than well-being itself. So far as concerns the physical conditions of life, pleasure may be regarded as correlative, in its origin at least, to beneficial modes of activity. This has been well shown by Mr. Herbert Spencer, and the proof is so simple that one can repeat it in passing: a species which as a rule found its pleasure in actions hurtful to itself could manifestly have no permanent existence. And the thought seems no less applicable to the life of men in society and the conditions of their common weal. In this wise, then, Hedonism may be practically justified without regarding Pleasure as in itself the End; subject, of course, to qualifications, warnings, and regulations which would be in substance the same as those already imposed on the crude forms of Hedonism by our later utilitarians If this is so, or in other words if, so far as the man or the society he lives in is not diseased, pleasure means, as Spinoza says, the passage to a greater perfection, then one can understand the strength of Hedonism, and be thankful for the gifts of its doctrine, without holding that Pleasure is everything. I cannot help feeling (for I dare not claim for this the consistence of settled thought) that while fullness of life is pleasant, yet it is not so much the pleasure of it that is good as the fullness of life itself. When I look forward to the hopes of mankind, the images that come before me are not of rest or "dreamful ease," but of new powers and activities; not of mere enjoyment, but of continued strife and triumph in an ever increasing mastery of things; of discovery and enterprise unceasing, of undreamt victories over nature, of beauty in the work of man's hands, and peace and wisdom in his counsels; a life, in short, greater, nobler, more harmonious than any life we yet know. All which, it may be answered, only comes to saying that activity is pleasant, and that to competent judges certain kinds of activity seem the most pleasant. I can only say again that this seems to me a forced way of stating the facts. There is another question, hardly recognised as yet, which lies at the root of the current objections to the possibility of a "Hedonistic Calculus," and gives them most of their force (though to the practical effect of those objections, I may say in passing that I quite agree with Mr. Sidgwick). Do we know after all what Pleasure is? Can we assume it to be simple or homogeneous? Is it even capable of the predicates of *more* or *less* in the same sense as quantities which can be numbered and measured? May not the *greater* and *less* of pleasure peradventure be

only homonymous, as the Schoolmen say, with the *greater* and *less* of measurable magnitudes, in which case the whole controversy whether different kinds of pleasure are commensurable would become little more than a barren beating of the air?

These things I do not pretend to know; but there are divers reasons, as it seems to me, for suspecting that pleasure is really a very complex thing. Nay, it is very conceivable to me that, by the help of workers from the physiological side, such as Fechner and Wundt (whose work, however, I know but vaguely and by report) this may one day be matter of demonstration. If that day ever comes, I do not see how Hedonism can escape from recasting its vocabulary. This may be called a materialistic suggestion, and perhaps in one sense it is; but having, as I hope, never wavered in the following of Berkeley, I am too thorough going an immaterialist to mind that. Meanwhile this line of consideration, so far as it may be worth anything, cuts both ways. If the utilitarian has to forego his claim to achieve the exact solution of ethical problems in a manner in which nobody solves them in practice, the intuitionist must also forego such satisfaction as he can at present derive from asking the utilitarian what multiple of the pleasure of eating pastry will come out equal to the pleasure of doing a benevolent action. There are really two distinct questions: Is it possible to construct a numerical scale of pleasures? and, In the conscious choice of what to do, is the choice always between pleasures or things considered as pleasant? In this last statement, however, a rational utilitarian might fairly object to the word *considered* as too definite, too much suggesting a process of actual calculation: we should say, perhaps, *regarded*, or even *felt*. And, so far as I can see, the questions are not only distinct but perfectly independent.

On the whole, then, I submit that we must wait for more light. The conclusion may seem an idle one, but I have endeavoured, after the Platonic precept, to follow the leading of our λόγος, whithersoever it would, and thus far and no farther it has led me. No one can be more aware than myself of the loose, unsettled, unfinished character of these reflections. But I believe that in the present state of ethical definitions even loose discussion may have its uses. Let me once more repeat, to prevent misunderstanding, that in the meantime I accept Happiness, as conceived by Grote, Mr. Sidgwick, or any other rational utilitarian, as a good and valid working conception.

F. Pollock.

Dr. Carpenter's Theory of Attention.—It is curious to notice how the advocates of metempirical doctrines occasionally adduce facts which furnish the refutation of their own theories. An instance of this kind may be found in Dr. Carpenter's *Mental Physiology*.

In that treatise the state of Attention is maintained to be the mental correlate of local hyperæmia of the parts of the brain concerned in producing the mental state on which it is fixed, the hyperæmia being induced by a dilatation of the arteries supplying those parts, which dilatation is the effect of the action of the vaso-motor

nerves upon the muscular walls of the arteries. When, therefore, the Will fixes the Attention on any mental state, it does so, according to this theory, by "playing upon" the vaso-motor centre (*i.e.*, the medulla oblongata).

Now this theory is contradicted by the fact stated in the following passage taken from the same treatise (p. 127). After speaking of "that very important division of the Sympathetic which is distributed on the walls of the arteries now known as the Vaso-motor System," Dr. Carpenter says that "No motor power can be exerted through the Sympathetic System by any act of Will; but the muscular actions of many of the parts just enumerated are greatly affected by Emotional States; and this is particularly the case in regard to those of the heart and arteries".

That is to say, the power attributed to the Will (which, according to Dr. Carpenter, is an immaterial agent animating, as it were, the body) of fixing the Attention is in reality exercised only by the Emotions. If for the Emotional States we substitute their physical correlates, the above passage would thus amount to an admission of the doctrine of Automatism. For Dr. Carpenter, in his second article "On the Doctrine of Human Automatism," contributed to the *Contemporary Review* for May, 1875, himself resolves the control of the Will over conduct into its control over the Attention.

JNO. T. LINGARD.

X.—NEW BOOKS.

Die Ethik des Spinoza im Uriexte. Herausgegeben, etc, von HUGO GINSBERG. Leipzig, 1875. Pp. lvi, 299.

Der Briefwechsel des Spinoza im Urtexte. Herausgegeben, etc, von HUGO GINSBERG. Leipzig, 1876. Pp. lxxxix, 252.

From the very useful and pleasant introductions with which they are accompanied, these volumes are well worth the attention of the student. Dr. Ginsberg is not afraid of quoting, and presents us with copious extracts from Wachter (an interesting 17th century critic), Joel, Trendelenburg, Erdmann, Kuno Fischer, and Sigwart. The first volume contains an introduction, a bibliographic summary, and the texts of the preface to the *Opera Posthuma* and of the *Ethica*. In the Introduction the life of Spinoza is briefly summed up. The latest researches are kept well in view;—the conditions of culture in the colony of Portuguese Jews at Amsterdam are sketched in a lively manner, and the synagogue is defended from the charge of barbarous fanaticism in the matter of the excommunication. There is a highly interesting excerpt from the Memoirs of one Gottlieb Stolle, who was in Amsterdam in 1703, and busied himself in collecting "news" concerning Spinoza. The reader will probably feel that the wondrous gossip of Stolle's "old man" is by no means too lightly treated; and that a witness who draws for us a picture of the author of the *Ethica*,

nicely dressed, with a sword by his side, indulging in his two cans of wine, and in visits "*ad virgo*" *(sic!)* is unworthy of serious attention. A suggestive review and criticism of the cardinal points of the great thinker's system closes the Introduction to the first volume.

The second contains another introduction, a summary of the "groups of correspondence," a collection of biographical notices, the "*argumenta*" to the Letters (taken from Von Murr's *Adnotationes*), the text of the Letters, and an appendix consisting of the *Vie de Spinoza* of Colerus, with a Latin translation of the edict of excommunication. The Introduction gives an extract from Trendelenburg's essay on the correspondence as amplified by the new matter published by Van Vloten in his *Supplementum* in 1862. There is a thorough discussion, by Sigwart and by Trendelenburg, of the date of composition of the *Ethica*. A review of the passages of the correspondence that are important for purposes of study, gives occasion for the introduction of an instructive excursus on the doctrine of the Attributes, by Erdmann, Trendelenburg, and Kuno Fischer; and this is followed by much excellent discussion of Spinoza's teaching, metaphysical, psychological, and ethical. Dr. Ginsberg has probably done wisely in rejecting Bruder's division of the letters into paragraphs: which certainly lends to Spinoza's letters a false air of pedantry that by no means belongs to them. The Biographical Notices are almost all that is wanted; the name of Leibnitz, however, is absent from them. The collection of *Argumenta*, which are given in a body, and not dispersed over their respective letters, is very convenient.

Unfortunately, the editing of the texts is most marvellously careless. The three or four pages of errata give but a very inadequate account of the misprints. Ep. xxxviii is not given in the original Dutch, as it ought to be given in any edition that lays claim to completeness. This is perhaps pardonable; but to have reprinted Ep. xlix, as it stands in former editions, without noticing the interesting variations of the MS. of the letter as published by Van Vloten, is unpardonable. The treatment of Ep. xxvi is quite inexcusable. Dr. Ginsberg has copied literally the later paragraphs in which Van Vloten presents us with the text of his MS. *(Supplementum* p. 296.), and has thus succeeded in omitting the seventeen important lines that make up the two concluding paragraphs of the letter in Bruder's edition;—the omission being indicated only by an useless and unintelligible "*etc.*" From Ep. xxvii, he has omitted the not uninteresting initial paragraph furnished by Van Vloten.

If the student will buy these inexpensive volumes, and have the Introductions bound up together, he will find them a very handy book of reference. ARTHUR BOLLES LEE.

A Discourse on Truth. By RICHARD SHUTE, M.A., Senior Student and Tutor of Christ Church, Oxford. London: King & Co., 1877. Pp. 299.

This book starts from the premisses supplied by Locke and Hume, and by taking them in connection with the conception of adaptation to

environment, draws conclusions opposed to Mill's law of the uniformity of Nature, and doctrine of the functions and value of Syllogism. Truth is a general name for the way in which a man adapts himself to circumstances, and by speech helps others to do so. The sixth chapter—'Syllogism and Deductive Reasoning'—is the central point of the book; 'Definition,' 'Cause,' and 'Induction' lead up to it. The chief function of Induction is to furnish us with formulæ for communicating useful beliefs or rather tendencies to believe when occasion presents itself. Deduction is a distinct process of discovery. Mill in criticising the Syllogism limited himself to the unimportant deductions where the middle term is a natural kind like *Man*, which is naturally suggested by *Cæsar*. In a legitimate syllogism the extremes must not necessarily suggest the middle. The middle term must be an artificial class-name. *Whale, Mammal, Lungs*—is a legitimate deduction, because *Whale* does not naturally suggest *Mammal*, as *Cæsar* does *Man*. From this use of artificial class-names the author goes on to treat of Language in relation to Thought, and of 'Necessary Truths' which he declares to be a self-contradictory conception. An 'Epilogue' is directed against Rational Religion which "makes no demands upon that Faith which is the evidence of things not seen".

Mr. Sidgwick's Hedonism: An Examination of the main argument of the *The Methods of Ethics*. By F. H. Bradley. London: King & Co., 1877. Pp. 64.

The author in Part I. seeks "to help the reader to master the most prominent conceptions of the book, and to bring to light the obscurity and ambiguous nature of the leading terms, and the equivocal character of the main thesis". In Part II. he endeavours to show that the proof of the thesis offered is unsatisfactory. In Part III. he tries to exhibit the real nature of the Ethical Science which is proposed, with some of the objections to which it lies open; also, he discusses the problem, partly moral and partly theological, which is raised at the end of Mr. Sidgwick's work. The author's final judgment upon the work is thus expressed: "I can find no unity of principle which holds its parts together. Rather I seem everywhere to have seen an attempt to unite irreconcileable points of view, which has failed because the criticism which should first have loosened their opposition, has been wanting, Hedonism and Individualism on the one side, and abstract Rationalism on the other, have met, but have not come together, and the result is a mere syncretism, a mechanical mixture of both." The "failure to take account of the views most opposed to traditional English doctrine has been at least one cause of the uncertain handling of leading conceptions, and the confusion in the result".

History of European Morals from Augustus to Charlemagne. By William Edward Hartpole Lecky, M.A. 3rd Ed. Revised. 2 vols. London: Longmans & Co., 1877. Pp. 468, 407.

This well-known book has been carefully revised since the last

edition, the author being much aided in his task by his German translator, the deceased D. H. Jolowicz. The controversial first chapter on 'The Natural History of Morals' now appears on the one hand shorn of a few lines, and on the other increased by three or four short passages in elucidation or support of the author's former positions.

Der Ursprung der Sprache, im Zusammenhange mit den letzten Fragen alles Wissens. Von Dr. H. Steinthal. 3te Aufl. Berlin, Dümmler, 1877. Pp. 374.

This edition is more than twice, almost thrice, the size of the former one (1858). Continuing his critico-historical treatment of linguistic theories which formerly did not extend beyond Heyse and Renan, the author now passes under review the labours of L. Geiger (at great length), his own former theory as maintained in the days before the revolution wrought by Darwin and others in natural history, the views of Jäger, of Darwin himself and of Caspari. The book has thus become a real compendium of all important theories that have been held concerning the origin of language, viewed in relation to the ultimate questions of metaphysical and religious philosophy. In a final chapter the bearings of the doctrine of Evolution upon linguistic science are specially considered.

Kant und Newton. Von Dr. Konrad Dieterich. Tübingen: H. Laupp. 1877. Pp. 294.

This essay, in itself not long, aims at accomplishing one part of a task left unperformed or insufficiently performed by Kant's expositors —namely, to trace with careful detail the connection between his physical and metaphysical investigations on the one hand and between his researches in culture-history and his ethical philosophy on the other. The second part of the task is reserved for another book soon to appear under the title of *Kant und Rousseau.* The author's view of Kant's relation to Newton is that while Newton had explained according to mechanical laws the cosmical system as it is, he should in like manner explain how it came to be. "Newton was the good genius who stood by the cradle of his scientific development and hovered as guardian over the progress of his philosophical thought." The supporting citations, filling half the volume, are very complete and therefore valuable as a collection.

Denken und Wirklichkeit. Versuch einer Erneuerung der Kantischen Philosophie. Von A. Spir. 2te umgearbeitete Auflage. 2 vols. Leipzig: J. G. Findel, 1877. Pp. 386, 292.

This is a second edition of a work that appeared in 1873, and is issued before the former one is quite exhausted, because it is a matter of conscience with the author to give his ideas the greatly improved exposition that he now offers. The book possesses a special interest for English readers, by reason of the author's intimate acquaintance with

all the recent phases of English philosophy. He recognises in the Experientialism of English thinkers a genuine attempt to solve the question of Philosophy in the spirit of Kant's criticism, though he himself sides with Kant in declaring for *a priori* elements in knowledge, and these (he maintains) of a kind not to be explained by the doctrine of heredity. Like most other Kantians, however, he is by no means satisfied with the master's actual scheme of the *a priori* elements, and he seeks to devise a better. His most characteristic positions have already been indicated in MIND (No. III. p. 420, as also No. IV. p. 557), and more cannot now be added in this short announcement, but the book is recommended to the attention of philosophical students.

Logique Algorithmique. Essai sur un Système de Signes appliqué à la Logique, avec une Introduction où sont traitées les questions générales relatives à l' emploi des Notations dans les Sciences. Par J. DELBOEUF, Professeur à l' Université de Liége. Liége, Bruxelles. 1877. Pp. 99.

This essay, first published in three numbers of the *Revue Philosophique* towards the end of last year, was announced by the author as far back as the year 1865 in the preface to his remarkable *Essai de Logique Scientifique.* He had then settled with himself the principle of his logical calculus, and done so in ignorance of Boole's earlier labours; nor, when he returned some months ago (from his psycho-physical investigations) to the task of carrying it out, had he been able in the interval to make himself acquainted with the various English attempts to establish an algorithmic logic, though he now makes supplementary references to some of them. M. Delboeuf's symbolism has some similarity to that suggested by Mr. Murphy in the last number of MIND and expounded a year or two earlier by him in a paper on 'The relation of Logic to Language,' but it is separated from this by important differences, and his whole treatment of the subject is marked by much originality. Indeed it may be doubted whether any one has yet sought to devise a logical calculus with so true a grasp as M. Delboeuf has of the relation between logic on the one hand and mathematics and the sciences generally on the other. The first two parts of the present essay, dealing with the question of the general character of a calculus and the possibility of having one in logic, are full of instruction even for those who may attach less importance than he does to the realisation of the possibility. At the same time he cannot be charged with exaggerating the merely practical value of his invention; for he adds to the third part, in which it is wrought out at length, a short fourth part on the question of utility, in which he allows that it is of service in the solution of very simple questions only. "When the reasoning is brought to a series of syllogisms, it can undoubtedly assign the possible consequences, or indicate rapidly and surely the true conclusion; but the true difficulty to be contended with lies in the translation of the reasoning into conclusive syllogisms."

Logische Studien. Ein Beitrag zur Neubegründung der Formalen Logik und der Erkenntnisstheorie. Von Friedrich Albert Lange. Iserlohn: J. Baedeker. 1877. Pp. 149.

This work, completed as it stands three weeks before the lamented author's death, is but a first part that was to be followed by a second. Its fundamental conception is that Logic can have no other firm foundation than the laws that arise from the consideration of Space and of Movement in space. 'Theory of Cognition,' which comes into the second title, is taken by Lange as the doctrine of human knowledge based on Logic, Metaphysic, and Psychology, and therefore having no strict unity of principle. The science resolves itself into (1) the pure *à priori* investigation of the postulates presupposed in knowledge (after the manner of Kant), and (2) the psychological doctrine of cognition, which is empirical; while these two divisions presuppose an exact investigation of logical forms. The contents of Part I. are: (1) Formal Logic and Theory of Knowledge, (2) Morality of Judgments, (3) The Particular Judgment and the Doctrine of Conversion, (4) Syllogistic, (5) The Disjunctive Judgment and the Elements of the Doctrine of Probability, (6) Space, Time, and Number. A note remains of the contents of Part II. that was next to be written: (7) The Psychology of Thought, (8) Grammar and Logic, (9) Induction, (10) The Numerical Method and the law of large Numbers, (11) The Historico-Critical Method, (12) Idea of a Comparative Methodology of Science, with appendix to follow on Choice and Voting.

The Physical Basis of Mind. (Being the Second Series of *Problems of Life and Mind.*) By George Henry Lewes, with woodcut illustrations. Trübner & Co.

The following extracts are given from the Preface to Mr. Lewes's new volume, which will very shortly appear:—

"The title indicates that this volume is restricted to the group of material conditions which constitute the organism in relation to the physical world—a group which furnishes the data for one half of the psychologist's quest; the other half being furnished by historical and social conditions. The human mind, so far as it is accessible to scientific inquiry, has a twofold root, man being not only an animal organism but an unit in the social organism; and a complete theory of its functions and faculties must therefore be sought in this twofold direction. . . .

The volume contains four essays. The first, on *The Nature of Life*, deals with the speciality of organic phenomena, as distinguished from the inorganic. It sets forth the physiological principles which Psychology must incessantly invoke. . . .

The second essay is on the *Nervous Mechanism*, setting forth what is known, and what is inferred, respecting the structure and properties of that all-important system. If the sceptical and revolutionary attitude in presence of opinions currently held to be established truths, surprises or pains the reader unprepared for such doubts, I can only ask him to submit my statements to a similar scepticism, and confront them with the ascertained evidence. After many years of laborious investigation

and meditation, the conclusion has slowly forced itself upon me that on this subject there is "a false persuasion of knowledge" very fatal in its influence, because unhesitatingly adopted as the ground of speculation both in Pathology and in Psychology. This persuasion is sustained because few are aware how much of what passes for observation is in reality sheer hypothesis. I have had to point out the great extent to which Imaginary Anatomy has been unsuspectingly accepted; and hope to have done something towards raising a rational misgiving in the student's mind respecting "the superstition of the nerve-cell"—a superstition which I freely confess to have shared in for many years.

The third essay treats of *Animal Automatism*. Here the constant insistance on the biological point of view, while it causes a rejection of the mechanical theory, admits the fullest recognition of all the mechanical relations involved in animal movements; and thus reconciles the contending schools. In this essay I have also attempted a psychological solution of that old and much debated question, the relation of Body and Mind.

In the final essay the *Reflex Theory* is discussed; and here once more the biological point of view rectifies the error of an analysis which has led to the denial of Sensibility in reflex actions, because in that analysis the necessary presence of the conditions which determine Sensibility has been overlooked. . . .

According to my original intention this volume was to have included an exposition of the part I conceive the brain to play in physiological and psychological processes, but I have determined to postpone that until it could be accompanied by a survey of the psychological processes which would render the exposition more intelligible."

German Pessimism. By James Sully. King & Co. [Will appear shortly.]

"Its twofold aim is a critical estimate of the pessimists' doctrine of life and an explanation of the origin and apparent vitality of this belief. Accordingly, before entering into an exposition and criticism of the modern philosophic systems worked out by Schopenhauer and his successors, the writer reviews the history both of pessimism and of its correlative in their unreasoned or popular and their reasoned or scientific forms. The systems of Schopenhauer and Hartmann are then expounded and examined, a separate chapter being devoted to the metaphysical, the scientific, and the empirical basis of the doctrine. Special attention is given to the pessimists' conception of the physical world (as developed by Hartmann), and to their view of the processes of volition, and of the relation of feeling (pleasure and pain) to will. Accepting the Hedonistic basis of value adopted by the pessimists, the author proceeds to re-discuss the question raised by optimism and pessimism. After an attempt to construct an idea of happiness on a basis of pleasurable feeling, he inquires first of all into the present reality of happiness, and secondly into the bearing of progress on the realisation of happiness. A concluding chapter investigates the sources of optimism and pessimism, both in the varying disposition or mental temperament and in the circumstances (variable and constant) of human life, discusses the special influences which appear to support pessimism at the present day, and finally seeks to assign to this doctrine its legitimate rank among the varying tendencies of practical thought."

Natural Law: An essay in Ethics. By Edith Simcox. Trübner and Co. [Will appear shortly in a series to be entitled "English and Foreign Philosophical Library".]

"The essay discusses the source and nature of the human sense of obligation—legal, moral and religious. The object proposed is to trace the common elements in laws "properly so called," the moral law generally acknowledged, and the scientific laws of nature. A true law is defined as the statement of constant relations, such constancy following necessarily from the nature of the things related. The argument is that the sense of obligation or bondage to law = the consciousness of subjection to a real, regular pressure, in certain fixed directions; that men are subject to such pressure from three different sources, resulting in a (general) necessary obedience to the injunctions of law, morality and religion. Positive or customary law states the obligations imposed on men by their objective relations with other men; morality, the obligations imposed on them by their own moral and intellectual nature in the actual circumstances of society; religion, the obligations imposed on them by their spontaneous feelings towards the most abstract tendencies of universal nature. As to the nature of the obligations imposed by the moral law, three kinds of good are distinguished: Natural Good, Sensible Good or Pleasure, Moral Good. The common elements in different forms of the religious sentiment are considered; and finally the natural history of altruism, the natural sanctions of the moral law, the conditions of social and individual perfection."

XI.—NEWS.

The subscriptions for the Spinoza Memorial to be erected at the Hague had in January reached the sum of about £900, and the Committee, seeing its way to the execution of the project, then announced that it would shortly throw open the design of the memorial to international competition. On the 21st February, the two-hundredth anniversary of the day of Spinoza's death, a meeting was held at the Hague, and an oration in French was delivered by M. Renan. The address is now printed as a pamphlet, and the proceeds of the sale will be added to the subscription.

Mrs. Grote has just made over to the authorities of University College the sum of £6000, which her husband, the late President of the College and one of its original founders, bequeathed for the eventual endowment of the Chair of Philosophy of Mind and Logic. The first condition of the bequest was prescribed by Mr. Grote in his Will as follows: "I earnestly desire that the principle distinctly recognised when University College was founded, as being of essential and permanent importance, that is to say abstinence from all religious teaching and neutrality between all varieties of opinion in matters of religion, shall at all times be faithfully and exactly carried out, and I consider it inconsistent with that principle that the Professorship of Philosophy of Mind and Logic should be held by a minister of the

Church of England or of any other religious persuasion, who shall at any time have undertaken as his professional duty to inculcate the particular creed or doctrines of the Church or party to which he belongs. If therefore any such minister should at any time or times be appointed by the Council to the Professorship of Philosophy of Mind and Logic, or if any Professor of Philosophy of Mind and Logic, having been when appointed a layman, shall subsequently take orders or become a minister of any such creed or doctrines as aforesaid, I direct that no payment shall be made to him of the present endowment, but that the annual income when received shall as far as the law will admit be re-invested and added to the principal until the time when the said Professorship shall be occupied by a layman."

The fourth edition of Comte's *Philosophie Positive*, recently announced, has now appeared, with a second Preface from M. Littré which may be read in the January number of the journal conducted by himself and M. Wyrouboff. M. Littré professes himself still the disciple that he was twelve years ago when he wrote his preface to the second edition, and that he has been for the last forty years. He contrasts with the fate of books of science which become antiquated in ten years the fortune of Comte's philosophical work which the years make only more widely known, and he claims for it the unique character of remaining true after the scientific discoveries of the last half century just as it was when written—so completely did it grasp the spirit of scientific inquiry enthroned for all time to come. According to M. Littré, the peculiarity of the Positive Philosophy is that it recommends itself on different sides alike to minds accustomed to the rigorous methods of science and to the untrained who find in it a response to their social aspirations. As regards its origin, he does not pretend that it was the creation of one man : " it was prepared in every way ; the elements that could produce it, the *plasma* whence it sprung, were then full of life and fecundity ". Neither does he put out of sight the cognate but independent doctrine of English thinkers ; respecting which, however, he maintains his formerly declared opinion that it errs in making psychology, rather than the hierarchy of the positive sciences, the basis of philosophy. For the issue of the conflict between the two conceptions he is content to wait upon the progress of psychical physiology. "The more it becomes clear that psychical physiology is the biological equivalent of the traditional psychology, more or less modified by the experimental method which the English philosophers apply, the more it will become certain that the study of the psychical faculties is only, as Auguste Comté proclaimed it, a tributary of the general doctrine, not to be taken for its source."

In a later number of his journal (March-April) M. Littré writes a few pages in memory of Madame Comte who died some weeks ago. While confining himself mainly to a statement of what she did since

Comte's death for the cause of the Positive Philosophy, he gives the impression of a superior intellect and character of no common firmness and elevation. It was she who, in 1860, determined to have her husband's biography written; and M. Littré tells how, when she bore down his reluctance to add this burden to the labour of his Dictionary, he used for a whole year, regularly at the stroke of midnight, to put away his other papers and write at his *Auguste Comte et la philosophie positive* for three hours long into the morning. It was she who next would not rest till the *Cours de philosophie positive*, which had long been out of print, was made accessible to readers in a new edition, and she lived long enough to be rewarded by the call for two editions more. She again it was who exacted from the hard-worked disciple his defence of Comte against Mill's strictures in 1865; and then followed her idea of founding a periodical organ for the spread of the cause, which ultimately was realised by her securing the co-operation of M. Wyrouboff. Last year she urged her friends to take advantage (like the Catholics) of the new freedom of instruction in France, and found a school of the positive sciences; and one notion more she had which M. Littré says he would be tempted to carry into effect were he ten years younger—that of establishing a cheap journal for the common people to judge political events and social questions from the point of view of the Positive Philosophy. The record proves her unflinching devotion to what she deemed the true philosophic fame of her husband, and M. Littré for his part gratefully acknowledges the service she did to himself in laying tasks upon him, which, if they had not been performed in the midst of his lexicographic labours, he should hardly have had strength or courage left to essay when at last his Dictionary was completed. He is now in his 77th year.

An English translation of Prof. Barzellotti's excellent treatise *La Morale nella Filosofia Positiva* (Florence, 1871)—referred to in Mr. Spencer's *Study of Sociology* (p. 229)—is being prepared in America by Signor E. Gandolfo and Miss J. L. Olcott of Brooklyn. By 'Positive Philosophy' the author means the doctrines of English thinkers—chiefly the two Mills, Prof. Bain, and Mr. Spencer.

Dr. David Asher of Leipsic first published in 1865, and then in 1871 reprinted (with some other papers, under the title *Arthur Schopenhauer Neues von ihm und über ihn*, pp. 111), a series of twenty-four letters from Schopenhauer to himself, which seem to have escaped the notice of recent English writers. The letters, extending from 1855 till within a few weeks of Schopenhauer's death in 1860, are extremely characteristic of the man.

Baron von Reichlin-Meldegg, the aged Professor of Philosophy at Heidelberg, has just died. A correspondent says: "His philosophical position was a modified Kantism; and unlike his colleague, Prof. Kuno Fischer, he believed in the *second* edition of Kant's *Kritik*—

always declaring that he could not see why Dualism was inconsistent with the laws of the human understanding. His system of Logic, based on this view, follows the direction of Schleiermacher and Ueberweg, and presupposes a correspondence between things and representations of things. He had a most stupendous memory: he could recite whole pages of Greek, Hebrew, Latin, French, English, Spanish, and Italian authors; all the titles of books with their peculiar idioms and their dates, dates of historical events and of events occurring in special biographies; numbers of chapters and pages of particular passages in books, &c. In his lectures on *Faust* he would recite the whole of both parts by heart, now and then stopping to comment upon some passages, resuming the recital where he had left off. On the other hand, it cannot be said that his works are strongly marked by independence or novelty. Besides numerous historical, biographical, and theological works, he wrote on *Faust; Geschichte des Christenthums* (1836); *Psychologie des Menschen mit Einschluss der Somatologie u. der Lehre von den Geisteskrankheiten* (1838); *System der Logik, nebst Einleitung in die Philosophie* (1870). In private life he was a man whom one could not help respecting and loving."

W. Volkmann Ritter von Volkmar, Professor of Philosophy at Prague, and author of the *Lehrbuch der Psychologie* (Herbartian), &c., died on the 14th January last.

Léon Dumont, author of *Theorie Scientifique de la Sensibilite* (reviewed in MIND, No. III., p. 399) and of an earlier work *Sur les causes du Rire*, died at the early age of 40, on the 17th January. He was one of the most active and intelligent spirits of the younger generation of French thinkers.

The *Philosophische Monatshefte* (whose earlier fortunes have been told in MIND No. I., p. 141) has passed with the new year into the hands of Prof. C. Schaarschmidt of Bonn as editor, Dr. Ascherson of Berlin continuing as before to supply the very carefully compiled Bibliography which has for some years been a notable feature of the journal. The new editor, who is best known by his work on the Platonic canon, starts with the promise of strong support from his professional brethren. The journal will be published as before by E. Koschny of Leipsic, but under new and more liberal conditions.

REVUE PHILOSOPHIQUE. 2me Année No. I. H. Taine—'Les Vibrations cérébrales et la Pensée.' E. v. Hartmann—'Un nouveau disciple de Schopenhauer, J. Bahnsen.' P. Janet—'Qu'est-ce que l'Idéalisme?' A. Herzen—'De l'échauffement des centres nerveux par le fait de leur activité! Notes et Documents—'Une Idole moderne,' par A. Main. Analyses et comptes-rendus—H. Spencer, *Principles of Sociology* (Tome I); F. Brentano, *La civilisation et ses lois*; Du Bois Reymond, *Darwin*

versus Galiani; Goering, *Raum und Stoff;* Basevi, *Scienza della Divinazione;* P. d'Ercole, *La pena di Morte, &c.;* Caroli, *Logica con nuovo metodo;* Michaud, *De l'Imagination.* No. II. Ch. Lévêque—'François Bacon métaphysicien.' E. de Hartmann—'Un nouveau disciple de Schopenhauer, J. Bahnsen' (fin). G. Compayré—'L'éducation d'après Herbert Spencer.' Analyses et comptes-rendus—D. Ferrier, *The functions of the Brain;* Bridel, *La philosophie de la religion de Kant;* Swientochowski, *Essai sur l'origine des lois morales.* No. III. J. Delbœuf—'La loi psychophysique: Hering contre Fechner.' F. Bouillier—'La Règle des mœurs.' L. Liard—'La Logique de M. Stanley Jevons.' Analyses et comptes-rendus—v. Hartmann, *Kritische Grundlegung des transcendentalen Realismus*; Angiulli, *La Pedagogia, lo Stato e la Famiglia*; J. Soury, *Les Religions, les Arts, la Civilisation de l'Asie antérieure et de la Grèce;* J. Baissac, *Les Origines de la Religion.*

La Critique Philosophique.—Vme Année, Nos. 46-52, VIme. Année, Nos. 1-7. C. Renouvier—'Les labyrinthes de la métaphysique: L'infini et le continu, V. Cousin, M. Vacherot (46), Les physiciens et les chimistes (49), Les mathématiciens (2), La méthode dite des limites (7); Le 'rêve' de D'Alembert et les 'rêves' de M. Renan (51). Petit traite de morale à l'usage des écoles primaires laïques (*Suite*, 46-8, 50, 52, 1-3, 5-7.)

La Filosofia delle Scuole Italiane Vol. XIV. Disp. 3. L. Ferri—'La Coscienza.' T. Mamiani—'Filosofia della religione.' A Martinazzoli—'Della morale disinteressata.' Manzoni—'Il nuovo criticismo di C. Renouvier.' T. Mamiani—'Di una insufficiente filosofia della storia.' Bibliografia, &c. Vol. XV. Disp. 1. F. Bonatelli—Un escursione psicologica nella regione delle idee. T. Mamiani—'Filosofia della religione.' N.N.—'Appunti sul Darvinismo.' F. Bertinaria—'Ricerca se la separazione della Chiesa dallo Stato sia dialettica ovvero sofistica.' Collyns Simon—'La religione e la metafisica' C. Cantoni—'I precursori di Kant nella filosofia critica.' T. Mamiani—'Carteggio.' Bibliografia, &c.

Vierteljahrsschrift für Wissenschaftliche Philosophie.—I. Heft ii. Fr. Paulsen—'Ueber die principiellen Unterschiede erkenntnisstheoretischer Ansichten.' M. Heinze—'Der Idealismus Friedrich Albert Lange's.' O. Liebmann—'Raumcharakteristik und Raumdeduction.' A. Riehl—'Der Raum als Gesichtsvorstellung.' W. Windelband—'Ueber die verschiedenen Phasen der Kantischen Lehre vom Ding-an-sich.' E. Zeller—'Antwort an Herrn Professor Dr. J. H. von Fichte.' Recensionen—Schmitz-Dumont, *Zeit und Raum*; Erdmann, Martin Knutzen, &c.; Ribot, *die Erblichkeit.* Selbstanzeigen.

Philosophische Monatshefte.—Bd. XII. Heft 10. Sup. Opitz—'Realismus und Idealismus.' H. Vaihinger—'Zur modernen Kantphilologie.' E. Bratuscheck—'Kritischer Jahresbericht.' (Forts.) Bibliographie. Schlusswort. Bd. XIII. Hefte 1,2. C. Schaarschmidt—A. Horwicz, *Ueber Wesen und Aufgabe der Philosophie.* R. Hasenclever—'Zur Analysis der Raumvorstellung.' C. S. Barach—'Ueber die Philosophie des Giordano Bruno.' J. H. Witte—Fr. Harms, *Die Philosophie seit Kant.* C. Schaarschmidt—G. V. Schiaparelli, *Die Vorläufer des Copernikus im Alterthum.* Prof. Lutterbeck—H. Thiersch, *Ueber den christ Staat.* Dr. Bertling—Oscar Schmidt, *Die naturwiss. Grundl. der Phil. des Unbewussten*, Bibliographie, &c.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—A BIOGRAPHICAL SKETCH OF AN INFANT.

M. Taine's very interesting account of the mental development of an infant, translated in the last number of MIND (p. 252), has led me to look over a diary which I kept thirty-seven years ago with respect to one of my own infants. I had excellent opportunities for close observation, and wrote down at once whatever was observed. My chief object was expression, and my notes were used in my book on this subject; but as I attended to some other points, my observations may possibly possess some little interest in comparison with those by M. Taine, and with others which hereafter no doubt will be made. I feel sure, from what I have seen with my own infants, that the period of development of the several faculties will be found to differ considerably in different infants.

During the first seven days various reflex actions, namely sneezing, hickuping, yawning, stretching, and of course sucking and screaming, were well performed by my infant. On the seventh day, I touched the naked sole of his foot with a bit of paper, and he jerked it away, curling at the same time his toes, like a much older child when tickled. The perfection of these reflex movements shows that the extreme imperfection of the voluntary ones is not due to the state of the muscles or of the co-ordinating centres, but to that of the seat of the will. At this time, though so early, it seemed clear to me that a warm soft hand

applied to his face excited a wish to suck. This must be considered as a reflex or an instinctive action, for it is impossible to believe that experience and association with the touch of his mother's breast could so soon have come into play. During the first fortnight he often started on hearing any sudden sound, and blinked his eyes. The same fact was observed with some of my other infants within the first fortnight. Once, when he was 66 days old, I happened to sneeze, and he started violently, frowned, looked frightened, and cried rather badly: for an hour afterwards he was in a state which would be called nervous in an older person, for every slight noise made him start. A few days before this same date, he first started at an object suddenly seen; but for a long time afterwards sounds made him start and wink his eyes much more frequently than did sight; thus when 114 days old, I shook a paste-board box with comfits in it near his face and he started, whilst the same box when empty or any other object shaken as near or much nearer to his face produced no effect. We may infer from these several facts that the winking of the eyes, which manifestly serves to protect them, had not been acquired through experience. Although so sensitive to sound in a general way, he was not able even when 124 days old easily to recognise whence a sound proceeded, so as to direct his eyes to the source.

With respect to vision,—his eyes were fixed on a candle as early as the 9th day, and up to the 45th day nothing else seemed thus to fix them; but on the 49th day his attention was attracted by a bright-coloured tassel, as was shown by his eyes becoming fixed and the movements of his arms ceasing. It was surprising how slowly he acquired the power of following with his eyes an object if swinging at all rapidly; for he could not do this well when seven and a half months old. At the age of 32 days he perceived his mother's bosom when three or four inches from it, as was shown by the protrusion of his lips and his eyes becoming fixed; but I much doubt whether this had any connection with vision; he certainly had not touched the bosom. Whether he was guided through smell or the sensation of warmth or through association with the position in which he was held, I do not at all know.

The movements of his limbs and body were for a long time vague and purposeless, and usually performed in a jerking manner; but there was one exception to this rule, namely, that from a very early period, certainly long before he was 40 days old, he could move his hands to his own mouth. When 77 days old, he took the sucking bottle (with which he was partly fed) in his right hand, whether he was held on the left or right arm of his nurse, and he would not take it in his left hand

until a week later although I tried to make him do so; so that the right hand was a week in advance of the left. Yet this infant afterwards proved to be left-handed, the tendency being no doubt inherited—his grandfather, mother, and a brother having been or being left-handed. When between 80 and 90 days old, he drew all sorts of objects into his mouth, and in two or three weeks' time could do this with some skill; but he often first touched his nose with the object and then dragged it down into his mouth. After grasping my finger and drawing it to his mouth, his own hand prevented him from sucking it; but on the 114th day, after acting in this manner, he slipped his own hand down so that he could get the end of my finger into his mouth. This action was repeated several times, and evidently was not a chance but a rational one. The intentional movements of the hands and arms were thus much in advance of those of the body and legs; though the purposeless movements of the latter were from a very early period usually alternate as in the act of walking. When four months old, he often looked intently at his own hands and other objects close to him, and in doing so the eyes were turned much inwards, so that he often squinted frightfully. In a fortnight after this time (*i.e.* 132 days old) I observed that if an object was brought as near to his face as his own hands were, he tried to seize it, but often failed; and he did not try to do so in regard to more distant objects. I think there can be little doubt that the convergence of his eyes gave him the clue and excited him to move his arms. Although this infant thus began to use his hands at an early period, he showed no special aptitude in this respect, for when he was 2 years and 4 months old, he held pencils, pens, and other objects far less neatly and efficiently than did his sister who was then only 14 months old, and who showed great inherent aptitude in handling anything.

Anger.—It was difficult to decide at how early an age anger was felt; on his eighth day he frowned and wrinkled the skin round his eyes before a crying fit, but this may have been due to pain or distress, and not to anger. When about ten weeks old, he was given some rather cold milk and he kept a slight frown on his forehead all the time that he was sucking, so that he looked like a grown-up person made cross from being compelled to do something which he did not like. When nearly four months old, and perhaps much earlier, there could be no doubt, from the manner in which the blood gushed into his whole face and scalp, that he easily got into a violent passion. A small cause sufficed; thus, when a little over seven months old, he screamed with rage because a lemon slipped away and he could not seize it with his hands. When eleven months old, if

a wrong plaything was given him, he would push it away and beat it; I presume that the beating was an instinctive sign of anger, like the snapping of the jaws by a young crocodile just out of the egg, and not that he imagined he could hurt the plaything. When two years and three months old, he became a great adept at throwing books or sticks, &c., at anyone who offended him; and so it was with some of my other sons. On the other hand, I could never see a trace of such aptitude in my infant daughters; and this makes me think that a tendency to throw objects is inherited by boys.

Fear.—This feeling probably is one of the earliest which is experienced by infants, as shown by their starting at any sudden sound when only a few weeks old, followed by crying. Before the present one was 4½ months old I had been accustomed to make close to him many strange and loud noises, which were all taken as excellent jokes, but at this period I one day made a loud snoring noise which I had never done before; he instantly looked grave and then burst out crying. Two or three days afterwards, I made through forgetfulness the same noise with the same result. About the same time (*viz.* on the 137th day) I approached with my back towards him and then stood motionless: he looked very grave and much surprised, and would soon have cried, had I not turned round; then his face instantly relaxed into a smile. It is well known how intensely older children suffer from vague and undefined fears, as from the dark, or in passing an obscure corner in a large hall, &c. I may give as an instance that I took the child in question, when 2¼ years old, to the Zoological Gardens, and he enjoyed looking at all the animals which were like those that he knew, such as deer, antelopes &c., and all the birds, even the ostriches, but was much alarmed at the various larger animals in cages. He often said afterwards that he wished to go again, but not to see "beasts in houses"; and we could in no manner account for this fear. May we not suspect that the vague but very real fears of children, which are quite independent of experience, are the inherited effects of real dangers and abject superstitions during ancient savage times? It is quite conformable with what we know of the transmission of formerly well-developed characters, that they should appear at an early period of life, and afterwards disappear.

Pleasurable Sensations.—It may be presumed that infants feel pleasure whilst sucking, and the expression of their swimming eyes seems to show that this is the case. This infant smiled when 45 days, a second infant when 46 days old; and these were true smiles, indicative of pleasure, for their eyes brightened and eyelids slightly closed. The smiles arose chiefly when looking at their mother, and were therefore probably of mental origin;

but this infant often smiled then, and for some time afterwards, from some inward pleasurable feeling, for nothing was happening which could have in any way excited or amused him. When 110 days old he was exceedingly amused by a pinafore being thrown over his face and then suddenly withdrawn; and so he was when I suddenly uncovered my own face and approached his. He then uttered a little noise which was an incipient laugh. Here surprise was the chief cause of the amusement, as is the case to a large extent with the wit of grown-up persons. I believe that for three or four weeks before the time when he was amused by a face being suddenly uncovered, he received a little pinch on his nose and cheeks as a good joke. I was at first surprised at humour being appreciated by an infant only a little above three months old, but we should remember how very early puppies and kittens begin to play. When four months old, he showed in an unmistakable manner that he liked to hear the pianoforte played; so that here apparently was the earliest sign of an æsthetic feeling, unless the attraction of bright colours, which was exhibited much earlier, may be so considered.

Affection.—This probably arose very early in life, if we may judge by his smiling at those who had charge of him when under two months old; though I had no distinct evidence of his distinguishing and recognising anyone, until he was nearly four months old. When nearly five months old, he plainly showed his wish to go to his nurse. But he did not spontaneously exhibit affection by overt acts until a little above a year old, namely, by kissing several times his nurse who had been absent for a short time. With respect to the allied feeling of sympathy, this was clearly shown at 6 months and 11 days by his melancholy face, with the corners of his mouth well depressed, when his nurse pretended to cry. Jealousy was plainly exhibited when I fondled a large doll, and when I weighed his infant sister, he being then 15½ months old. Seeing how strong a feeling jealousy is in dogs, it would probably be exhibited by infants at an earlier age than that just specified, if they were tried in a fitting manner.

Association of Ideas, Reason, &c.—The first action which exhibited, as far as I observed, a kind of practical reasoning, has already been noticed, namely, the slipping his hand down my finger so as to get the end of it into his mouth; and this happened on the 114th day. When four and a half months old, he repeatedly smiled at my image and his own in a mirror, and no doubt mistook them for real objects; but he showed sense in being evidently surprised at my voice coming from behind him. Like all infants he much enjoyed thus looking at himself, and in less than two months perfectly understood that it was

an image; for if I made quite silently any odd grimace, he would suddenly turn round to look at me. He was, however, puzzled at the age of seven months, when being out of doors he saw me on the inside of a large plate-glass window, and seemed in doubt whether or not it was an image. Another of my infants, a little girl, when exactly a year old, was not nearly so acute, and seemed quite perplexed at the image of a person in a mirror approaching her from behind. The higher apes which I tried with a small looking-glass behaved differently; they placed their hands behind the glass, and in doing so showed their sense, but far from taking pleasure in looking at themselves they got angry and would look no more.

When five months old, associated ideas arising independently of any instruction became fixed in his mind; thus as soon as his hat and cloak were put on, he was very cross if he was not immediately taken out of doors. When exactly seven months old, he made the great step of associating his nurse with her name, so that if I called it out he would look round for her. Another infant used to amuse himself by shaking his head laterally: we praised and imitated him, saying "Shake your head"; and when he was seven months old, he would sometimes do so on being told without any other guide. During the next four months the former infant associated many things and actions with words; thus when asked for a kiss he would protrude his lips and keep still,—would shake his head and say in a scolding voice "Ah" to the coal-box or a little spilt water, &c., which he had been taught to consider as dirty. I may add that when a few days under nine months old he associated his own name with his image in the looking-glass, and when called by name would turn towards the glass even when at some distance from it. When a few days over nine months, he learnt spontaneously that a hand or other object causing a shadow to fall on the wall in front of him was to be looked for behind. Whilst under a year old, it was sufficient to repeat two or three times at intervals any short sentence to fix firmly in his mind some associated idea. In the infant described by M. Taine (pp. 254-256) the age at which ideas readily became associated seems to have been considerably later, unless indeed the earlier cases were overlooked. The facility with which associated ideas due to instruction and others spontaneously arising were acquired, seemed to me by far the most strongly marked of all the distinctions between the mind of an infant and that of the cleverest full-grown dog that I have ever known. What a contrast does the mind of an infant present to that of the pike, described by Professor Möbius,* who during three whole months dashed and

* *Die Bewegungen der Thiere*, &c., 1873, p. 11.

stunned himself against a glass partition which separated him from some minnows; and when, after at last learning that he could not attack them with impunity, he was placed in the aquarium with these same minnows, then in a persistent and senseless manner he would not attack them!

Curiosity, as M. Taine remarks, is displayed at an early age by infants, and is highly important in the development of their minds; but I made no special observation on this head. Imitation likewise comes into play. When our infant was only four months old I thought that he tried to imitate sounds; but I may have deceived myself, for I was not thoroughly convinced that he did so until he was ten months old. At the age of 11½ months he could readily imitate all sorts of actions, such as shaking his head and saying "Ah" to any dirty object, or by carefully and slowly putting his forefinger in the middle of the palm of his other hand, to the childish rhyme of "Pat it and pat it and mark it with T". It was amusing to behold his pleased expression after successfully performing any such accomplishment.

I do not know whether it is worth mentioning, as showing something about the strength of memory in a young child, that this one when 3 years and 23 days old on being shown an engraving of his grandfather, whom he had not seen for exactly six months, instantly recognised him and mentioned a whole string of events which had occurred whilst visiting him, and which certainly had never been mentioned in the interval.

Moral Sense.—The first sign of moral sense was noticed at the age of nearly 13 months: I said "Doddy (his nickname) won't give poor papa a kiss,—naughty Doddy". These words, without doubt, made him feel slightly uncomfortable; and at last when I had returned to my chair, he protruded his lips as a sign that he was ready to kiss me; and he then shook his hand in an angry manner until I came and received his kiss. Nearly the same little scene recurred in a few days, and the reconciliation seemed to give him so much satisfaction, that several times afterwards he pretended to be angry and slapped me, and then insisted on giving me a kiss. So that here we have a touch of the dramatic art, which is so strongly pronounced in most young children. About this time it became easy to work on his feelings and make him do whatever was wanted. When 2 years and 3 months old, he gave his last bit of gingerbread to his little sister, and then cried out with high self-approbation "Oh kind Doddy, kind Doddy". Two months later, he became extremely sensitive to ridicule, and was so suspicious that he often thought people who were laughing and talking together were laughing at him. A little later (2 years and 7½ months old) I met him

coming out of the dining room with his eyes unnaturally bright, and an odd unnatural or affected manner, so that I went into the room to see who was there, and found that he had been taking pounded sugar, which he had been told not to do. As he had never been in any way punished, his odd manner certainly was not due to fear, and I suppose it was pleasurable excitement struggling with conscience. A fortnight afterwards, I met him coming out of the same room, and he was eyeing his pinafore which he had carefully rolled up; and again his manner was so odd that I determined to see what was within his pinafore, notwithstanding that he said there was nothing and repeatedly commanded me to "go away," and I found it stained with pickle-juice; so that here was carefully planned deceit. As this child was educated solely by working on his good feelings, he soon became as truthful, open, and tender, as anyone could desire.

Unconsciousness, Shyness.—No one can have attended to very young children without being struck at the unabashed manner in which they fixedly stare without blinking their eyes at a new face; an old person can look in this manner only at an animal or inanimate object. This, I believe, is the result of young children not thinking in the least about themselves, and therefore not being in the least shy, though they are sometimes afraid of strangers. I saw the first symptom of shyness in my child when nearly two years and three months old: this was shown towards myself, after an absence of ten days from home, chiefly by his eyes being kept slightly averted from mine; but he soon came and sat on my knee and kissed me, and all trace of shyness disappeared.

Means of Communication.—The noise of crying or rather of squalling, as no tears are shed for a long time, is of course uttered in an instinctive manner, but serves to show that there is suffering. After a time the sound differs according to the cause, such as hunger or pain. This was noticed when this infant was eleven weeks old, and I believe at an earlier age in another infant. Moreover, he appeared soon to learn to begin crying voluntarily, or to wrinkle his face in the manner proper to the occasion, so as to show that he wanted something. When 46 days old, he first made little noises without any meaning to please himself, and these soon became varied. An incipient laugh was observed on the 113th day, but much earlier in another infant. At this date I thought, as already remarked, that he began to try to imitate sounds, as he certainly did at a considerably later period. When five and a half months old, he uttered an articulate sound "da" but without any meaning attached to it. When a little over a year old, he used gestures

to explain his wishes; to give a simple instance, he picked up a bit of paper and giving it to me pointed to the fire, as he had often seen and liked to see paper burnt. At exactly the age of a year, he made the great step of inventing a word for food, namely, *mum*, but what led him to it I did not discover. And now instead of beginning to cry when he was hungry, he used this word in a demonstrative manner or as a verb, implying "Give me food". This word therefore corresponds with *ham* as used by M. Taine's infant at the later age of 14 months. But he also used *mum* as a substantive of wide signification; thus he called sugar *shu-mum*, and a little later after he had learned the word "black," he called liquorice *black-shu-mum*,—black-sugar-food.

I was particularly struck with the fact that when asking for food by the word *mum* he gave to it (I will copy the words written down at the time) "a most strongly marked interrogatory sound at the end". He also gave to "Ah," which he chiefly used at first when recognising any person or his own image in a mirror, an exclamatory sound, such as we employ when surprised. I remark in my notes that the use of these intonations seemed to have arisen instinctively, and I regret that more observations were not made on this subject. I record, however, in my notes that at a rather later period, when between 18 and 21 months old, he modulated his voice in refusing peremptorily to do anything by a defiant whine, so as to express "That I won't"; and again his humph of assent expressed "Yes, to be sure". M. Taine also insists strongly on the highly expressive tones of the sounds made by his infant before she had learnt to speak. The interrogatory sound which my child gave to the word *mum* when asking for food is especially curious; for if anyone will use a single word or a short sentence in this manner, he will find that the musical pitch of his voice rises considerably at the close. I did not then see that this fact bears on the view which I have elsewhere maintained that before man used articulate language, he uttered notes in a true musical scale as does the anthropoid ape Hylobates.

Finally, the wants of an infant are at first made intelligible by instinctive cries, which after a time are modified in part unconsciously, and in part, as I believe, voluntarily as a means of communication,—by the unconscious expression of the features,—by gestures and in a marked manner by different intonations,—lastly by words of a general nature invented by himself, then of a more precise nature imitated from those which he hears; and these latter are acquired at a wonderfully quick rate. An infant understands to a certain extent, and as

I believe at a very early period, the meaning or feelings of those who tend him, by the expression of their features. There can hardly be a doubt about this with respect to smiling; and it seemed to me that the infant whose biography I have here given understood a compassionate expression at a little over five months old. When 6 months and 11 days old he certainly showed sympathy with his nurse on her pretending to cry. When pleased after performing some new accomplishment, being then almost a year old, he evidently studied the expression of those around him. It was probably due to differences of expression and not merely of the form of the features that certain faces clearly pleased him much more than others, even at so early an age as a little over six months. Before he was a year old, he understood intonations and gestures, as well as several words and short sentences. He understood one word, namely, his nurse's name, exactly five months before he invented his first word *mum;* and this is what might have been expected, as we know that the lower animals easily learn to understand spoken words.

CHARLES DARWIN.

II.—EDUCATION AS A SCIENCE. (II.)

IN a preceding article (MIND, No. V.), the psychological bearings of Education were entered upon; and two out of the three primary functions of the Intellect were considered. There remained the power named—

Similarity or Agreement.

It is neither an inapt nor a strained comparison to call this power the Law of Gravitation of the intellectual world. As regards Education, it has an importance co-equal with the plastic force that is expressed by Retentiveness or Memory. The methods to be pursued in attaining the commanding heights of General Knowledge are framed by the circumstances attending the detection of Like in the midst of Unlike.

With all the variety that there is in the world of our experience, a variety appealing to our consciousness of difference, there is also great Repetition, sameness, or unity. There are many shades of colour, as distinguished by the discriminative sensibility of the eye; yet the same shade often recurs. There are many varieties of form—the round, the square, the spiral, &c.—and we discriminate them when they are contrasted; while the same form starts up again and again. At first sight, this would

appear to mean nothing at all; the great matter would appear to be to avoid confounding differences—blue with violet, a circle with an oval; when blue recurs, we simply treat it as we did at first.

The remark is too hasty, and overlooks a vital consideration. What raises the principle of Similarity to its commanding height is the accompaniment of *diversity*. The round form first discerned in a ring or a half-penny, recurs in the full moon, where the adjuncts are totally different and need to be felt as different. In spite of these disturbing accompaniments, it is important to feel the agreement on the single circumstance called the round form.

When an impression made in one situation is repeated in an altered situation, the new experience reminds us of the old, notwithstanding the diversity; this reminder may be described as a new kind of shock, or awakened consciousness, called the shock or flash of identity in the midst of difference. A piece of coal and a piece of wood differ, and are at first looked upon as differing. Put into the fire, they both blaze up, give heat, and are consumed: here is a shock of agreement which becomes an abiding impression in connection with these two things. Of such shocks is made up one-half of what we term Knowledge.

Whenever there is a difference it should be felt by us; and so whenever there is an agreement it should be felt. To overlook either the one or the other is stupidity. Our education marches in both lines; and, in so far as we are helped by the schoolmaster, we should be helped in both. The artifices that promote discrimination, and the influences that thwart it, have been already considered; and many of the observations apply also to Agreement. In the identifying of like in the midst of unlike, there are cases that are easy; and there are cases that the unassisted mind fails to perceive.

(1.) We must repeat, with reference to the delicate perception of Agreements, the antithesis of the intellectual and the emotional outgoings. It is in the stillness of the emotions that the higher intellectual exercises are possible. This circumstance should operate as a warning against the too frequent recourse to pains and penalties, as well as against pleasurable and other excitement. But a more specific application remains.

We may at once face the problem of General Knowledge. The most troublesome half of the education of the intellect is the getting possession of generalities. A general fact, notion, or truth, is a fact recurring under various circumstances or accompaniments: 'heat' is the name for such a generality; there are many individual facts greatly differing among themselves, but all agreeing in the impression called heat—the sun, a fire, a

lamp, a living animal. The intellect discerns, or is struck with, the agreement, notwithstanding the differences; and in this discernment arrives at a general idea.

Now the grand stumbling-block in the way of the generalising impetus is the presence of the individual differences. These may be small and insignificant; in comparing fires with one another, the agreement is striking, while the differences between one fire and another, in size, or intensity, or fuel, do not divert the attention from their agreement. But the discerning of sameness in the sun's ray and in a fermenting dung-heap is thwarted by the extraordinary disparity; and this conflict between the sameness and the difference operates widely and retards the discovery of the most important truths.

(2.) The device of *juxta-position* applies to the expounding of Agreement, no less than of difference. We can arrange the several agreeing facts in such a way that the agreement is more easily seen. The effect is gained partly by closeness, as in the case of differences, and partly by a symmetrical contact, as when we compare the two hands by placing them finger to finger, and thumb to thumb. Such symmetrical comparisons bring to view, in the same act, agreement and difference. The method reaches far and wide, and is one of the most powerful artificial aids to the imparting knowledge.

(3.) The *cumulation* of the instances is essential to the driving home of a generality. A continuous, undistracted iteration of the point of agreement is the only way to produce an adequate impression of a great general idea. I cannot now consider the various obstacles encountered in this attempt, nor explain how seldom it can be adhered to in the highest examples. It must suffice to remark that the interest special to the individual examples is perpetually carrying off the attention; and pupil and master are both liable to be turned aside by the seduction.

There is another aspect of the power of Similarity, under which it is a valuable aid to Memory or Retention. When we have to learn an exercise absolutely new, we must engrain every step by the plastic adhesiveness of the brain, and must give time and opportunity for the adhesive links to be matured. But when we come to an exercise containing parts already acquired by the plastic operation, we are saved the labour of forging fresh links as regards these, and need only to master what is new to us. When we have known all about one plant, we can easily learn the other plants of the same species or genus; we need only to master the points of variety.

The bearing of this circumstance on mental growth must be apparent at once. After a certain number of acquirements in

the various regions of study—manual art, language, visible pictures—nothing that occurs is absolutely new; the amount of novel matter is continually decreasing as our knowledge increases. Our adhesive faculty is not improving as we grow in years; very much the contrary: but our facility in taking in new knowledge improves steadily; the fact being that the knowledge is so little new that the forging of fresh adhesions is reduced to a very limited compass. The most original air of music that the most original genius could compose would be very soon learnt by an instructed musician.

In the practice of the schoolmaster's art, this great fact will be perpetually manifesting itself. The operation can be aided and guided in those cases where the agreement really existing is not felt. It is one of the teaching arts to make the pupils see the old in the new, as far as the agreement reaches; and to pose them upon this very circumstance. The obstacles are the very same as already described, and the means of overcoming them the same. Orderly juxta-position is requisite for matters of complexity; and we may have also to counterwork the attractions of individuality.

Constructiveness.

In many parts of our education, the stress lies not in simple memory, or the tenacious holding of what has been presented to the mind, but in making us perform some new operation, something that we were previously unable to do. Such are the first stages of our instruction in speaking, in writing, and in all the mechanical or manual arts. So also in the higher intellectual processes, as in the imagining of what we have not seen. I do not go so far as to include invention or discovery; the culture of the creative faculty is not comprised in the present discussion.

The psychology of Constructiveness is remarkably simple. There are certain primary conditions that run through all the cases; and it is by paying due respect to these conditions that we can, as teachers, render every possible assistance to the struggling pupils.

(1.) The constructive process supposes *something to construct from;* some powers already possessed that can be exercised, directed, and combined in a new manner. We must walk before beginning to dance; we must articulate simple sounds before we can articulate words; we must draw straight strokes and pot-hooks before we can form letters; we must conceive trees and shrubs, flowers and grassy plots, before we can conceive a garden.

The practical inference is no less obvious and irresistible; it

is one that covers the whole field of education, and could never be entirely neglected, although it has certainly never been fully carried out. Before entering on a new exercise, we must first be led up to it by mastering the preliminary or preparatory exercises. Teachers are compelled by their failures to attend to this fact in the more palpable exercises, as speaking and writing. They lose sight of it, when the succession of stages is too subtle for their apprehension, as in the understanding of scientific doctrines.

(2.) In aiming at a new construction, *we must clearly conceive what is aimed at;* we must have the means of judging whether or not our tentatives are successful. The child in writing has the copy lines before it; the man in the ranks sees the fugleman, or hears the approving or disapproving voice of the drill-sergeant. Where we have a very distinct and intelligible model before us, we are in a fair way to succeed; in proportion as the ideal is dim and wavering, we stagger and miscarry. When we depend upon a teacher's expressed approval of our effort, it behoves him to be very consistent, as well as very sound, in his judgment; should he be one thing to-day, and another thing to-morrow, we are unhinged and undone.

It is a defect pertaining to all models that they contain individual peculiarities mixed up with the ideal intention. We carry away with us from every instructor touches of mannerism, and the worst of it is that some learners catch nothing but the mannerism; this being generally easier to fall into than the essential merits of the teaching. There is no remedy here except the comparison of several good models; as the ship-captain carries with him a number of chronometers.

In following an unapproachable original, as in learning to write from copperplate lines, we need a second judgment to inform us whether our deviations are serious and fundamental, or are venial and unavoidable. The good tact of our instructor is here put to the test; he may make our path like the shining light that shineth more and more, or he may leave us in hopeless perplexity. To point out to us where, how, and why we are wrong, is the teacher's most indispensable function.

(3.) The only mode of arriving at a new constructive combination is *to try and try again.* The will initiates some movements; these are found not to answer, and are suppressed; others are tried, and so on, until the requisite combination has been struck out. The way to new powers is by trial and error. According as the first and second conditions above given are realised, the unsuccessful trials are fewer. If we have been well led up to the combination required, and if we have before us a very clear idea of what is to be done, we do not need many

tentatives; the prompt suppression of the wrong movements ultimately lands us in the right.

The mastering of a new manual combination, as in writing, in learning to swim, in the mechanical arts,—is a very trying moment to the human powers; success involves all those favourable circumstances indicated in discussing the retentive or receptive faculty. Vigour, freshness, freedom from distraction, no strong or extraneous emotions, motives to succeed,—are all most desirable in realising a difficult combination. Fatigue, fear, flurry, or other wasting excitement, do away with the chances of success.

Very often we have to give up the attempt for a time; yet the ineffectual struggles are not entirely lost. We have at least learnt to avoid a certain number of positions, and have narrowed the round of tentatives for the next occasion. If after two or three repetitions, with rest intervals, the desired combination does not emerge, it is a proof that some preparatory movement is wanting, and we should be made to retrace the approaches. Perhaps we may have learnt the pre-requisite movements in a way, but not with sufficient firmness and certainty for securing their being performed in combination.

Alternation and Remission of Activity.

In the accustomed routine of Education, a number of separate studies and acquirements are prosecuted together; so that, for each day, a pupil may have to engage in as many as three, four, or more, different kinds of lessons.

The principles that guide the alternation and remission of our modes of exercise and application are apparently these:—

(1.) Sleep is the only entire and absolute cessation of the mental and bodily expenditure; and perfect or dreamless sleep is the greatest cessation of all. Whatever shortens the due allowance of sleep, renders it fitful and disturbed or promotes dreaming, is so much force wasted.

In the waking hours, there may be cessation from a given exercise, with more or less of inaction over the whole system. The greatest diversion of the working forces is made by our meals: during these the trains of thought are changed, while the body is rested.

Bodily or muscular exercise, when alternated with sedentary mental labour, is really a mode of remission accompanied with an expenditure requisite to redress the balance of the physical functions. The blood has unduly flowed to the brain; muscular exercise draws it off. The oxidation of the tissues has been retarded; muscular exercise is the most direct mode of increasing it. But definite observations teach us that these two

beneficial effects are arrested at the fatigue-point; so that the exercise at last contributes not to the refreshment, but to the farther exhaustion of the system.

(2.) The real matter before us is, what do we gain by dropping one form of activity and taking up another? This involves a variety of considerations.

It is clear that the first exercise must not have been pushed so far as to induce general exhaustion. The raw recruit, at the end of his morning drill, is not in a good state to improve his arithmetic in the military schoolroom. The musical training for the stage is at times so severe as to preclude every other study. The importance of a particular training may be such that we desire for it the whole available plasticity of the system.

It is only another form of exhaustion when the currents of the brain continue in their set channels and refuse any proposed diversion.

There are certain stages in every new and difficult study, wherein it might be well to concentrate for a time the highest energy of the day. Generally, it is at the commencement; but whatever be the point of special difficulty, there might be a remission of all other serious or arduous studies, till this is got over. Not that we need actually to lay aside every thing else; but there are, in most studies, many long tracts where we seem in point of form to be moving on, but are really repeating substantially the same familiar efforts. It would be a felicitous ideal adjustment, if the moments of strain in one of the parallel courses were to coincide with the moments of ease in the rest.

Hardly any kind of study or exercise is so complicated and many-sided as to press alike upon all the energies of the system; hence there is an obvious propriety in making such variations as would leave unused as few of our faculties as possible. This principle necessarily applies to every mental process—acquirement, production, and enjoyment. The working out of the principle supposes that we are not led away by the mere semblance of variety.

Let us endeavour to assign the differences of subject that afford relief by transition.

There are many kinds of change that are merely another name for simple remission of the intellectual strain. When a severe and difficult exercise is exchanged for an easy one, the agreeable effect is due not to what we engage in, but to what we are relieved from. For letting down the strain of the faculties, it is sometimes better to take up a light occupation for a time than to be totally idle.

The exchange of study for sport has the two-fold advantage of muscular exercise, and agreeable play. To pass from any-

thing that is simply laborious to the indulgence of a taste or liking, is the fruition of life. To emerge from constraint to liberty, from the dark to the light, from monotony to variety, from giving to receiving—is the exchanging of pain for pleasure. This, which is the substantial reward of labour, is also the condition of renovating the powers for farther labour and endurance.

To come closer to the difficulty in hand. The kind of change that may take place within the field of study itself, and that may operate both as a relief from strain and as the reclamation of waste ground, is best exemplified in such matters as these:—In the act of learning generally there is a two-fold attitude—observing what is to be done, and doing it. In verbal exercises, we first listen and then repeat; in handicraft, we look at the model, and then reproduce it. Now the proportioning of the two attitudes is a matter of economical adjustment. If we are kept too long on the observing stretch, we lose the energy for acting; not to mention that more has been given us than we are able to realise. On the other hand, we should observe long enough to be quite saturated with the impression; we should have enough given us to be worthy of our reproducing energy. Any one working from a model at command learns the suitable proportion between observing and doing. The living teacher may err on either side. He may give too much at one dose; this is the common error. He may also dole out insignificantly small portions, which do not evoke the sense of power in the pupils.

When an arduous combination is once struck out, the worst is over, but the acquisition is not completed. There is the farther stage of repetition and practice, to give facility and ensure permanence. This is comparatively easy. It is the occupation of the soldier after his first year. There is a plastic process still going on, but it is not the same draft upon the forces as the original struggles. At this stage, other acquirements are possible and should be made. Now, in the course of training, it is a relief to pass from the exercises that are entirely new and strange, to those that have been practised and need only to be continued and confirmed.

Before considering the alternations of departments of acquisition, we may advert to the two different intellectual energies, called, respectively, Memory and Judgment. These are in every way distinct, and in passing from the one to the other, there is a real, and not merely an apparent, transition. Memory is nearly identical with the Retentive, Adhesive, or Plastic faculty, which I have assumed to be perhaps the most costly employment of the powers of the mind and brain. Judgment again

may be simply an exercise of Discrimination; it may also involve Similarity and Identification; it may farther contain a Constructive operation. It is the aspect of our intellectual power that turns to account our existing impressions, as contrasted with the power that adds to our accumulated stores. The most delightful and fructifying of all the intellectual energies is the power of Similarity and Agreement, by which we rise from the individual to the general, trace sameness in diversity, and master, instead of being mastered by, the multiplicity of nature.

Much more would be necessary to exhaust the nature of the opposition between exercises of Memory and exercises of Judgment. Language and Science approximately represent the contrast, although language does not exclude judgment, and science demands memory. But in the one region, mere adhesion is in the ascendant, and, in the other, the detection of similarity in diversity is the leading circumstance. There is thus a real transition, and change of strain, in passing from the one class of studies to the other; the only qualifying circumstance is that in early years routine adhesion plays the greatest part, being, in fact, easier than the other line of exertion, for reasons that can be divined.

We can now see what are the departments that constitute the most effective transitions or diversions, whereby relief may be gained at one point, and acquirement pushed at some other. In the muscular acquirements, we have several distinct regions—the body generally, the hand in particular, the voice (articulate) and the voice (musical). To pass from one of these to the other is almost a total change. Then as to the sense engaged, we may alternate between the eye and the ear, making another complete transition. Farther, each of the sense-organs has distinguishable susceptibilies, as colour and form to the eye, articulation and music to the ear.

Another effective transition is from books or spoken teaching to concrete objects as set forth in the sciences of observation and experiment. The change is nearly the same as from an abstract subject like Mathematics, to one of the concrete and experimental sciences, as Botany and Chemistry. A still farther change is from the world of matter to the world of mind, but this is liable to assume false and delusive appearances.

It has been well remarked that Arithmetic is an effective transition from Reading and Writing. The whole strain and attitude of the mind is entirely different, when the pupil sets to perform sums after a reading lesson. The Mathematical sciences are naturally deemed the driest and hardest of occupations to the average mind; yet there may be occupations such as to make them an acceptable diversion. I have known clergymen whose

relaxation from clerical duty consisted in algebraical and geometrical problems.

The Fine Art acquisitions introduce an agreeable variety, partly by bringing distinctive organs into play, and partly by evoking a pleasurable interest that enters little, if at all, into other studies. The more genial part of Moral Training has a relationship to Art; the severer exercises are a painful necessity, and not an agreeable transition from anything.

The introduction of narratives, stirring incidents, and topics of human interest generally, is chiefly a mode of pleasurable recreation. If taken in any other view, it falls under some of the leading studies, and engages the Memory, the Judgment, or the Constructive power, and must be estimated accordingly.

Bodily training, Fine Art (itself an aggregate of alternations), Language, Science,—do not exhaust all the varieties of acquirement, but they indicate the chief departments whose alternation gives relief to the mental strain, and economises power in the whole. Under these, as already hinted, there are variations of attitude and exercise; from listening to repeating, from learning a rule to the application of it in new cases, from knowledge generally to practice.

The transition from one language to another, being a variation in the nature of the impressions, is a relief of an inferior kind, yet real. It is the more so, if we are not engaged in parallel exercises; learning strings of Latin words in the morning, and of German in the evening, does not constitute any relief.

From one science to another, the transition may be great, as already shown, or it may be small. From Botany to Zoology affords a transition of material, with similarity in form. Pure and Mixed Mathematics are the very same thing. The change from Algebra to Geometry is but slightly refreshing; from Geometry to Trigonometry, and Geometrical Conic Sections, is no relief to any faculty.

There are minor incidents of relief and alternation that are not to be despised. Passing from one master to another (both being supposed competent) is a very sensible and grateful change; even the change of room, of seat, of posture, is an antidote against weariness, and helps us in making a fresh start. The jaded student relishes a change of books in the same subject.

Some subjects are in themselves so mixed that they would appear to contain the elements of a sufficiently various occupation of the mind; such are Geography, History, and what is called Literature, when studied both for expression and for subject-matter. This variety, however, is not altogether a desirable thing. The analytic branch of the Science of Educa-

tion would have to resolve those aggregates into their constituent parts, and consider not only their respective contributions to our mental culture, but also the advantages and disadvantages attending the mixture.

CULTURE OF THE EMOTIONS.

The laws attainable in the departments of Emotion and Volition are the immediate prelude to Moral Education, in which all the highest difficulties culminate. There are emotional and volitional forces prior to any cultivation, and there are new forces that arise through cultivation; yet from the vagueness attaching to the measured intensity of feelings and emotions, it is not easy to value the separate results.

The general laws of Retentiveness equally apply to emotional growths. There must be Repetition and Concentration of mind to bring about a mental association of pleasure or of pain with any object. But there are peculiarities in the case such as to demand for it a supplementary treatment. Perhaps the best way of bringing out the points is to indicate the modes or species of growths, coming under Emotion and Volition, that most obtrude themselves upon the notice of the educationist.

(1.) We may quote first the Associations of Pleasure and Pain with the various things that have been present to us during our experiences of delight and suffering. It is well known that we contract pleasurable regards towards things originally indifferent that have been often present to us in happy moments. Local associations are among the most familiar examples; if our life is joyous, we go on increasing our attachments to our permanent home and neighbourhood; we are severely tried when we have to migrate; and one of our holiday delights is to revisit the scenes of former pleasures. A second class of acquired feelings includes the associations with such objects as have been the instruments of our avocations, tastes, and pursuits. The furnishings of our home, our tools, weapons, curiosities, collections, books, pictures,—all contract a glow of associated feeling, that helps to palliate the dulness of life. The essence of affection, as distinguished from emotion, is understood to be the confirming and strengthening of some primary object of our regards. As our knowledge extends, we contract numerous associations with things purely ideal, as with historic places, persons, and incidents. I need only allude to the large field of ceremonies, rites, and formalities, which are cherished as enlarging the surface of emotional growths. The Fine Art problem of distinguishing between original and derived effects consists in more precisely estimating these acquired pleasures.

The educationist could not but cast a longing eye over the wide region here opened up, as a grand opportunity for his art. It is the realm of vague possibility, peculiarly suited to sanguine estimates. An education in happiness pure and simple, by well-placed joyous associations, is a dazzling prospect. One of Sydney Smith's pithy sayings was—"If you make children happy now, you make them happy twenty years hence, by the memory of it". This referred no doubt to the home life. It may, however, be carried out also in the school life; and enthusiasm has gone the length of supposing that the school may be so well constituted as to efface the stamp of an unhappy home.

The growth of such happy associations is not the work of days; it demands years. I have endeavoured to set forth the psychology of the case (*The Emotions and the Will*, 3rd edit., p. 89), and do not here repeat the principles and conditions that seem to be involved. But the thread of the present exposition would be snapt, if I were not to ask attention to the difference in the rate of growth when the feelings are painful; the progress here is not so tedious nor so liable to thwarting and interruption.

With understood exceptions, pleasure is related physically with vitality, health, vigour, harmonious adjustment of all the parts of the system; it needs sufficiency of nutriment or support, excitement within due limits, the absence of every thing that could mar or irritate any organ. Pain comes of the deficiency in any of these conditions, and is therefore as easy to bring about and maintain as the other is difficult. To evoke an echo or recollection of pleasure, is to secure, or at least to simulate, the copiousness, the due adjustment and harmony of the powers. This may be easy enough when such is the actual state at the time, but that is no test. What we need is to induce a pleasurable tone, when the actuality is no more than indifferent or neutral, and even, in the midst of actual pain, to restore pleasure by force of mental adhesiveness. A growth of this description is on *a priori* grounds not likely to be very soon reached.

On the other hand, pain is easy in the actual, and easy in the ideal. It is easy to burn one's fingers, and easy to associate pain with a flame, a cinder, a hot iron. Going as spectators to visit a fine mansion, we feel in some degree elated by the associations of enjoyment; but we are apt to be in a still greater degree depressed by entering the abodes of wretchedness, or visiting the gloomy chambers of a prison.

(2.) The facility of painful growths is not fully comprehended, until we advert to the case of Passionate Outbursts or the modes of feeling whose characteristic is Explosiveness. These costly discharges of vital energy are easy to induce at first hand, and easy to attach to indifferent things, so as to be induced at second

hand likewise. Very rarely are they desirable in themselves; our study is to check and control them in their original operation, and to hinder the rise of new occasions for their display. One of the best examples is Terror; an explosive and wasteful manifestation of energy under certain forms of pain. If it is frequently stimulated by its proper causes, it attaches itself to bystanding circumstances with fatal readiness, and proceeds with no tardy steps. Next is Irascibility, also an explosive emotion. It too, if ready to burst out by its primary causes, soon enlarges its borders by new associations. It is in every way more dangerous than terror. The state of fear is so miserable that we would restrain it if we could. The state of anger, although containing painful elements, is in its nature a luxurious mood; and we may not wish either to check it in the first instance, or to prevent it from spreading over collateral things. When any one has stirred our irascibility to its depths, the feeling overflows upon all that relates to him. If this be pleasure, it is a pleasure of rapid growth; even in tender years we may be advanced in hatreds. That combination of terror and irascibility giving rise to what is named Antipathy is (unless strongly resisted) a state easy to assume and easy to cultivate, and is in wide contrast with the slow growth of the pleasures typified under the foregoing head. A signal illustration of explosiveness is furnished by Laughter, which has both its original causes, and also its factitious or borrowed stimulants. This is an instance where the severity of the agitation provokes self-control, and where advancing years contract rather than enlarge the sphere. As the expression of disparaging and scornful emotions, its cultivation has the facility of the generic passion of malevolence. We may refer, next, to the explosive emotion of Grief, which is in itself seductive, and, if uncontrolled, adds to its primary urgency the force of a habit all too readily acquired. There is, moreover, in connection with the Tender Emotion, an explosive mode of genuine affection, of which the only defect is its being too strong to last; it prompts to a degree of momentary ardour that is compatible with a relapse into coldness and neglect. This, too, will spontaneously extend itself, and will exemplify the growth of emotional association with undesirable rapidity.

What has now been said is but a summary and representation of familiar emotional facts. Familiar also is the remark that explosiveness is the weakness of early life, and is surmounted to a great degree by the lapse of time and the strengthening of the energies. The encounter with others in every-day life begets restraint and control; and one's own prudential reflections stimulate a farther repression of the original outbursts, by which also their growth into habits is

retarded. In so far as they are repressed by influence from without, and counter-habits established, as a part of moral education, I have elsewhere stated what I consider the two main conditions of such a result—a powerful initiative, and an unbroken series of conquests. When these conditions are exemplified through all the emotions in detail, the specialities of the different genera—Fear, Anger, Love, and the rest,—are sufficiently obvious.

(3.) The chief interest always centres in those associations that, from their bearing on right and wrong conduct, receive the name 'Moral'. The class just described have this bearing in a very direct form; while the first class indirectly subserves moral ends. But when we approach the subject with an express view to moral culture, we must cross the field of emotional association in general by a new track.

The newly-appointed Professors of the Theory of Education are perhaps not yet fully aware that, when they venture upon the troubled arena of Moral Education, they will not be able to evade the long-standing question—What is the Moral Faculty? A very short argument will prove the point. Moral improvement is obviously a strengthening of this so-called Moral Faculty, or Conscience—increasing its might (in Butler's phrase) to the level of its right. But in order to strengthen an energy we must know what it is: if it is a simple, we must define it in its simplicity; if it is a compound, we must assign its elements, with a view to define them. The unconventional handling of moral culture by Bentham and James Mill is strongly illustrative of this part of the case. Mill's view of the Moral Sense is the theory of thorough-going derivation; and, in delineating the process of Moral Education, he naturally follows out that view. He takes the cardinal virtues piece-meal; for example:—"Temperance bears a reference to pain and pleasure. The object is, to connect with each pain and pleasure those trains of ideas which, according to the order established among events, tend most effectually to increase the sum of pleasures upon the whole, and diminish that of pains." The advocates of a Moral Faculty would have a different way of inculcating Temperance, which, however, I will not undertake to reproduce.

It will not be denied, as a matter of fact, that the perennial mode of ensuring the moral conduct of mankind has been punishment and reward—pain and pleasure. This method has been found, generally speaking, to answer the purpose; it has reached the springs of action of human beings of every hue. No special endowment has been needed to make man dread the pains of the civil authority. Constituted as we are to flee all sorts of pain, we are necessarily urged to avoid pain when it

comes as punishment. Education is not essential to this effect, any more than it is essential to our avoiding the pains of hunger, cold, or fatigue.

Those that demur to the existence of a special faculty, different from all the other recognised constituents of mind—Feeling, Will, or Intellect—are not to be held as declaring that Conscience is entirely a matter of education; for, without any education at all, man may be, to all intents and purposes, moral. What is meant by the derivative theory of Conscience is, that everything that it includes is traceable to some one or other of the leading facts of our nature; first of all to Will or Volition, motived by pain and pleasure, and next to the Social and Sympathetic impulses. The co-operation of these factors supply a nearly all-powerful impetus to right conduct, wherever there is the external machinery of law and authority. Education, as a third factor, plays a part, no doubt, but we may over-rate as well as under-rate its influence. I should not be far out in saying that seventy-five per cent. of the average moral faculty is the rough and ready response of the Will to the constituted penalties and rewards of society.

At the risk of embroiling the theory of Education in a controversy that would seem be alien to it, I conceive it to be necessary to make these broad statements, as a prelude to enquiring what are the emotional and volitional associations that constitute the made-up or acquired portion of our moral nature. That education is a considerable factor is shown by the difference between the children that are neglected and such as are carefully tended; a difference, however, that means a good deal more than education.

When the terrors of the law are once thoroughly understood, it does not seem as if any education could add to the mind's own original repugnance to incur them; and, on the other hand, when something in the nature of reward is held forth to encourage certain kinds of conduct, we do not need special instruction to prompt us to secure it. There is, indeed, one obvious weakness that often nullifies the operation of these motives, namely the giving way to some present and pressing solicitation, a weakness that education might do something for, but rarely does. The instructor that could reform a victim to this frailty, would effect something much wider than moral improvement properly includes.

Going in search of some distinct lines of emotional association that enhance the original impulses coincident with moral duty, I think I may cite the growth of an immediate, independent, and disinterested repugnance to what is uniformly denounced and punished as being wrong. This is a state or disposition of

mind forming part of a well-developed conscience; it may grow up spontaneously under the experience of social authority, and it may be aided by inculcation; it may, however, also fail to show itself. This is the parallel of the much-quoted love of money for itself; but is not so facile in its growth. For one thing, the mind must not treat authority as an enemy to be counted with, and to be obeyed only when we cannot do better. There must be a cordial acquiescence in the social system as working by penalties; and this needs the concurrence of good impulses together with reflection on the evils that mankind are saved from. It is by being favourably situated in the world, as well as by being sympathetically disposed, that we contract this repugnance to immoral acts in themselves, and without reference to the penalties that are behind; and thus perform our duties when out of sight, and not in the narrowness of the letter, but in the fulness of the spirit. It would take some consideration to show how the schoolmaster might co-operate in furthering this special growth.

A. Bain.

III.—KNOWLEDGE AND BELIEF.

Belief seems to remain still among the few mental phenomena whose place and connections are not determined with a degree of positiveness and certainty sufficient to make students of mental science feel very sure of their ground. James Mill with his accustomed clearness of exposition enumerated, in his *Analysis of the Human Mind*, the kinds and objects of belief, reducing all cases to indissoluble association, and maintaining "that there is no generic distinction but only a difference in the strength of the association between a case of belief and a case of mere imagination: that to believe a succession or co-existence between two facts is only to have the ideas of the two facts so strongly and closely associated that we cannot help having the one idea when we have the other". Upon this exposition by James Mill has taken place, perhaps, the most instructive and valuable discussion of the subject of belief which is extant. This discussion occurs in notes by Professor Bain and John Stuart Mill in the edition of the *Analysis* published in 1869 (Vol. I., p. 393, ff.). Professor Bain in his *Emotions and Will* (p. 505, ff. 3rd ed.) has gone into the matter more thoroughly and with greater amplitude of detail, but discloses little not contained essentially in his notes to which allusion has just been made. These latter have the advantage of being concise and of

being placed in juxtaposition with the comments of the two Mills upon the same topic. Both J. S. Mill and Professor Bain show conclusively enough the defects of the elder Mill's treatment, but differ somewhat in their own estimates of the nature and bearings of the phenomena in question.

That belief is not solely inseparable association, argues J. S. Mill, appears from the fact that those inseparable associations which seem to generate beliefs do not generate them in everybody. The generality of mankind believe they see distance, extension and figure, though all they really see is the accompanying optical effects, the rest being matter of association. But the associations are just as inseparable in the minds of scientific men who know what the facts are, although in the case of such there is no belief. And further, there frequently exist in the mind associations of an opposite and conflicting character, with one of which belief is connected and with the other disbelief. If then we can represent in imagination either of two conflicting suppositions, of which we believe one and disbelieve the other, neither of the associations can be inseparable. We can represent to ourselves either the sun sinking below the horizon, or the horizon rising to eclipse the sun; we believe that the latter is the true state of the case. A person may have an habitual belief that there are no such things or beings as ghosts; but there may be occasions when, as under the influence of terror, he thinks he does see a ghost. A momentary belief in ghosts breaks in upon the normal belief. The associations then by which a belief in ghosts is negatived cannot be inseparable, and certainly those are not so by which the belief is generated for the moment. Belief and inseparable association then are not absolutely coincident; belief is something more than or other than inseparable association. After criticism of this character, J. S. Mill proceeds to review the objects of belief, to resolve all belief into memory and expectation, and finally to announce his conclusion that belief is a primordial and unanalysable experience and that the difference between memory and imagination is an ultimate and fundamental one.

Professor Bain considers the main difficulty in the way of understanding belief to lie in the habit of regarding it as appertaining to the intellect instead of the active part of our nature. Besides referring it to the active side of the mind, he places among the fundamental facts of belief what he terms a "primitive credulity," inclining us to believe everything until experience corrects the tendency. He also advances the view that, "while action is the basis and ultimate criterion of belief, there enters into it as a necessary element some cognisance of the *order of nature*, or the course of the world. . . . Nothing

can be set forth as belief that does not implicate in some way or other the order, arrangements, or sequences of the universe. . . . The state in question then, having its roots in voluntary action, has its branches spreading far and wide into the realms of intelligence and speculation." He further thinks there is no necessity for the "unexplained residuum" left by J. S. Mill. He also develops the important fact that belief and disbelief are the same state of mind, the opposite of belief in his estimation being not disbelief, but doubt or uncertainty.

Mr. James Sully (*Sensation and Intuition*, Essay IV.), has contributed to the literature of this branch of psychological investigation a valuable paper, in which he dissents from Mr. Bain's idea that belief is resolvable essentially into the mind's activity. According to Mr. Sully, the explanation of belief is "to be found in the transition from a sensation to an idea". "Every idea has an inherent tendency to approximate in character and intensity to the sensation of which it is the offspring." In belief there is "the reproduction of a past sensation by the medium of a present idea felt to be like it". "The present idea distinguished from the absent sensation gives the state of belief that the absent was once present." By means of this theory, Mr. Sully thinks the most complicated cases of belief can be resolved.

After examining these various discussions, one is struck with the thoughts, first, that the subject is not in any or all of them perfectly freed from confusion, yet, secondly, that facts are lying about in sufficient number to give a satisfactory explanation of the phenomena, if only those facts were gathered up and arranged in their proper places. I may be pardoned, therefore, for advancing what follows in aid of such a result.

We shall find an examination into the nature and sources of Belief to involve an inquiry into the sources and nature of Knowledge. What contributes to make clearer the one, can be made auxiliary to an explanation of the other. Before investigating the elements of knowledge, however, a preliminary survey of the objects of belief may serve to narrow and define our inquiry. In this introductory task, we need not go very far beyond the analysis made by the elder and the younger Mill, which is an exhaustive one, and which in its general line of procedure I shall venture to follow in my own order and language.

We do not use, ordinarily, the word *belief* in connection with a present feeling or idea. I may have a sensation of cold, and say I believe I have such a sensation; but, unless I am identifying the sensation, I mean nothing more than that I have it. Equally so, if I say I know I have a sensation of cold, I mean no other thing than that I have the sensation. Similarly of

any pleasure or pain; I have it or I do not have it. It is not maintained that belief proper is altogether absent in any of these experiences; quite the contrary will, I think, be shown farther on; but we may allow safely that the term *belief* is inappropriate so far as the experience is presentative.

The primary objects of belief are real occurrences which have happened to ourselves. We believe that such and such things have happened within our experience; from these we pass readily to anticipatory beliefs—that such and such things will happen, but the first is the simplest case. I believe my father was a tall man. I believe that I saw in my youth the New York riots. I believe that I moved my foot two seconds ago, or that a moment before I began to write this sentence I thought of a dog which is accustomed to howl in the yard underneath my window. In all these matters of experience, whether they occurred a second or ten years ago, belief is inextricably interwoven with memory. We believe nothing that we do not remember; and everything we remember is also a matter of belief, at least so far as attributing it to our experience is concerned.

Next we note belief in the existence of things. This is something more than belief in sensations which we have experienced, and something more than present experience of sensations. It includes (1) belief in existences present to the senses; (2) in existences not present to the senses but of which we have had past experience; (3) belief in the future existence of that of which we have had experience; and (4) in existences of which we have had no experience at all and which may be either past, present, or future.——(1) The experience of any object present involves a multitude of associations of one kind of sensation with another, some of which associations are not present. Perceptions of distance, direction, and magnitude all arise from tactual sensations associated with visible. When the distance of an object is determined by the sight of it, the tactual associations are not present. They are, however, reproductions of past experience, and hence are a matter of memory. There is the additional association that under certain conditions the reproduced experiences may again be actually experienced. I have not only the tactual associations but the association of myself again having the tactual sensations which I once had in connection with an object. I see an orange and my belief in the existence of the orange is simply in the experience of the sensations of sight and in the associations of other sensations of touch, odour, and taste, which *(a)* I recollect having had from an orange, and *(b)* which I think I could have again if I touched, smelled, and tasted the fruit. What is believed is the

associations, not the actual present sensations, and these associations are of things which *(a)* have been experienced and of things which *(b)* there is a possibility or expectation of experiencing in the future. In the case, then, of belief in existences present to the senses, belief consists of memory and expectation, the latter being a word which itself requires considerable explanation, to be given by-and-by, but which is convenient for use at the present stage and is not misleading.——(2) Belief in existences not present, but of which we have had past experience, is nothing more than a reproduction of a past experience to ourselves. We remember that we had a particular experience. This may and does postulate the belief of the preceding sub-division, namely, belief in a present existence; for my belief in the existence of things which I recollect having seen involves a recollection that I believed in their existence at the time when I saw them. Besides, the case of belief now under consideration often merges in the preceding case as when we believe that the trees we see from our window existed yesterday and are now existing, or that our friends whom we saw a month ago are still living, though absent. Into this case, therefore, no new constituents enter. The belief amounts to memory, and with it expectation is postulated. A prominent example of belief in the existence of things not present to the senses, but of which there has been experience, is found in the associations of cause and effect. The reproduction is not merely of myself having sensations, but of the sensations following each other in a more or less variable sequence and of forces existing as noümenal to the sensations. An antecedent becomes associated closely with its consequent, so that when one is reproduced the other is evoked also. Cause and effect are likewise in the category of belief in future experiences and existences.——(3) Belief in future existences of which we have had experience demands that we have *(a)* an idea of that which we believe, and *(b)* an expectation that it will exist in the future. This idea of the thing which we are to make an object of belief is some reproduced experience and belief; so far, then, the case is the same as the last. Beyond this lies only expectation, the analysis of which it has been thought wiser to defer. Belief of this variety is a matter of expectation that we should have or shall have, under certain circumstances, experiences of which our past sentient life gives us an idea.——(4) Belief is not confined to our own experience, past, present, or future. We believe also in the existence of many things, present, future, and past, which have never come within our own experience, and which we do not expect to come within that experience. These beliefs are substantially that in a given condition of

circumstances we should have had certain experiences, or that in a given condition we shall have them. Here belief requires *(a)* an idea of the object, event, or fact to be believed; *(b)* an idea of certain other objects, events, or facts, existing antecedently to the first idea; and *(c)* an expectation that certain experiences will occur. The idea both of the object and of the antecedent or conditional circumstance is a reproduction as a whole, or in its parts, of past experiences. The belief, therefore, seems as before to resolve itself into memory and expectation. But into this variety of belief there comes very prominently the element of testimony; upon testimony depends altogether our belief in existences irrelevant to our own experience. Inasmuch, however, as testimony enters into classes of objects of belief other than the one now before us, its consideration will be deferred to a separate paragraph soon to follow.

Having touched upon the relations of belief to a present feeling or idea; having also noted as objects of belief real occurrences which have happened to ourselves, and the existence of things present, past, and future, connected with our experience and not connected with our experience; we may now add *(a)* future events and occurrences as happening to ourselves, and *(b)* events in general not happening to ourselves. The difference between events and existences is a difference not in the things themselves, but in the way of looking at them. It is the difference between succession and co-existence. An event is something happening; events are things happening one after or before the other; these things happening are existences or at least experiences. Hence a belief in events is a belief in experiences or existences succeeding each other. Such a belief postulates a belief in experiences or existences and a succession. Succession is the only new circumstance, and a closer analysis would reveal that this also is involved in the former beliefs classified. Without going into any such examination, however, it is sufficiently evident that succession is cognised either as memory or expectation, and there is no succession without something succeeding something. Future events are looked forward to as happening to ourselves in expectation, representative processes giving an idea of the event; and events in general not happening to ourselves are believed as reproduced or expected successions of experiences and existences.

Upon testimony is founded belief in existences and events not cognised immediately. Testimony is also sometimes an aid to belief in what has been directly experienced. We can refresh our recollection of what has happened to us by means of testimony. In all cases belief in testimony necessitates the prior belief that the testimony is credible. I am told or have

evidence, as we say, that the President is to-day at Washington, and I believe this as a fact. The belief rests upon the testimony of some friend who saw the President at Washington and came on to New York thereafter, or of a telegraphic despatch to a newspaper. In order to believe either, I must have the antecedent belief that my friend is trustworthy or that the newspaper is worthy of credit. Such beliefs as these latter are the results of a large portion of past experience. Having the belief, gathered from long experience, that certain kinds of testimony and testimony given under certain circumstances are credible, I include this particular case under the generalisation I have made. Belief upon circumstantial evidence is of the same character. Past experience teaches that certain groups of circumstances indicate certain facts; a present case is identified with those cases wherein the circumstances are of this certain character. If the case be transferred to the past and I say, I believe the President was at Washington last week Thursday; or if it be carried forward and belief be declared that the President will be there next month, no change is wrought in the conditions of believing the testimony. It all rests upon past experience of what has proved credible and incredible. Things believed on testimony, then, should not constitute a separate class of objects of belief, but testimony should be regarded as one of the means by which belief is reached, as a factor in the growth of belief.

Finally, we believe in the truth of propositions. We believe, for instance, in the truth of the affirmation—'All men are mortal'. That is to say, we believe in the truth of the facts stated in the proposition, in this case a generalisation from past experience. We may believe also in the truth of the proposition—'The wicked will go into everlasting punishment'; this is likewise a belief in the truth of the facts asserted, in this case expected to happen in the future. All belief in the truth of propositions is belief in facts, that is existences or occurrences, within our experience or out of it; and both these cases have been reviewed.

It is scarcely necessary to remark that the objects of disbelief are the same as the objects of belief.

Incidentally to this cursory survey of the objects of belief, if it be comprehensive of all such objects, we find, therefore, that belief involves inextricably memory or representation, direct and conditional expectation of the future. This result will guide our thoughts into channels leading to the final conclusions of our discussion.

The term *knowledge* is used to indicate both the operation and the products of cognition; on account of which ambiguity,

among others, the term is sometimes misleading, and its use attended with confusion. In studying the nature of knowledge, however, it is tolerably evident that no progress can be made in understanding the products of cognition until we have first learned what is the process of cognition. Having ascertained, if such a thing be practicable, what the experience of cognition is, we shall be at no loss to apprehend what is an accumulation of cognitions, that is, what are the products of cognition. Our concern in this place is, then, first and principally with knowledge as the process of knowing. Let us take any simple experience and endeavour to analyse it, to discover what are the elements of cognition. To avoid complications, let us suppose a tactual sensation, apart from sight, hearing, or inferior sensation. For instance, let me conceive a simple contact with the back of my head, as if a person standing behind me should put his hand there gently. I have a feeling called a sensation: what is involved in that sensation? In the first place, there is involved a consciousness of difference. I recognise a feeling as different from the feeling I had a moment ago. If it were not different I should have no sensation at all in that place, but my experience would run on without my knowing that anything was upon my head. I feel a pressure where there was no pressure before, a warmth where there was less warmth previously. In the second place, if there is any appreciable sensation, I am conscious also of an agreement, a similarity, or identity. In fact, I could not be conscious of a difference were I not also conscious of an agreement. A thing must be itself long enough for comparison in order to be said to be different from something else. When the hand strikes my head, I am conscious of a sensation continuing the same or similar from moment to moment. There is agreement or similarity of its parts. One can even go so far as to say that the term consciousness of difference has no meaning except with reference to a consciousness of agreement. Sameness and difference, like and unlike, are relative terms, either of which is devoid of significance without the other. So dependent is the one upon the other, though the two are distinct and antithetical, that consciousness of difference is made up of consciousness of agreement and consciousness of agreement made up of consciousness of difference. That sameness requires difference appears from the consideration that in order to establish a sameness a continuity must be made out, and a continuity implies distinguishable points; but a point distinguishable is also separable, and to say that it is separable and distinguishable implies a difference from something from which it is distinguished and separated. That difference postulates sameness is evident from the fact already

suggested that while a comparison is made the terms must remain constant; and constancy involves identity or similarity. Therefore, from whatever direction we approach the phenomena, there seems no escape from the conclusion that in the cognition of a sensation like that particularised, there is a consciousness of difference and a consciousness of agreement, neither of which can be merged in the other, and both of which are fundamental and primordial. In the third place, we are required to take formal notice of what already has been anticipated, namely, a consciousness of time; and the fact that we have been obliged to make such anticipation proves the elementary character of the phenomenon. There must be some continuity of the sensation occasioned by the hand on the back of my head, in order for me to distinguish any difference in feeling: in other words, in order for me to have a feeling. Furthermore, if time is necessary for a consciousness of difference and consciousness of difference is necessary for consciousness of agreement, time is also necessary for a consciousness of agreement. It does not appear possible to analyse this consciousness of time into either consciousness of agreement or consciousness of difference, for it is presupposed in both. There is no difference without a continuance and no agreement without a continuance. On the other hand, it is equally true that if the experience of time be examined closely, agreement and difference will be found as much presupposed as is time for them. I apprehend the sensation of the hand on my head by its continuing appreciably. If it continues, there must be a past and a present at least. It must hence be divisible into moments; one moment is not the same identically with a moment which is past; there is hence a difference. And yet the moments of time are similar and united in a whole of time, which is possible only through a consciousness of agreement. It can be said, therefore, that each of the three elements thus far found presupposes the others, but each one is itself ultimate.

If now we may be satisfied that there is required for my cognition of a sensation coming from the touch of a hand on the back of the head, a consciousness of time, agreement, and difference; an interesting question arises, in the fourth place, in regard to what sort of process it is by which I am enabled to affirm that the sensation now experienced is the same with or different from a preceding one. The preceding sensation is past and gone, and I never have that sensation again, though I have another which I loosely say is the same, meaning that it is similar. Yet if a sensation be gone utterly, it is out of mind wholly and there is no way by which I can tell whether it is different from or like another sensation. Comparisons cannot

be made when there is only one term; in order to compare there must be something to compare with something. We are hence compelled to posit a mental representation of the sensation had a moment ago, in order to declare that the sensation continues, that it is the same with or different from a present sensation. On scrutinising this mental representation to see if it cannot be decomposed into something else, a suspicion that it is so decomposable, might be generated by the discovery, which can be made, that this process of mental representation presupposes the three elements already brought out. For, if I am conscious that a sensation is represented, I must also be conscious that it is the same sensation I had before; that it is the same implies that it is different from some other; and that it is a past sensation implies time—a sensation as continuing and as completed in the past. Is there, after all, anything new in this consciousness of representation? If we aver that there is not, the query above propounded is still unanswered, and the difficulty recurs with undiminished force. How can I compare a present with a past sensation to know that the two are alike or different until first the past sensation is restored? If I could compare something with nothing, the question might be answered: but till this can be done it seems unanswerable upon any hypothesis other than that the experience of representation is an original, fundamental, unanalysable one. We shall, therefore, be justified in adding to the three elements of cognition heretofore found a fourth, which may be called consciousness of representation. And we shall notice the same curious interdependence between the four elements thus ascertained which existed when there were only three. It has already been disclosed that representation involves agreement, difference, and time: it is in equal measure true that each one of the latter involves representation. This may be seen, once for all, in the phenomena of time. Continuance means succession; succession is something succeeding something. It cannot be known that the later something follows the earlier something, unless the latter leaves an impression, or is represented. Conceding then that consciousness of representation is involved in consciousness of time, it must be allowed to be involved also in consciousness of agreement and difference, for the latter two are, as has been seen, themselves inexplicable without the presupposition of a consciousness of time.

The manner in which the expression *consciousness* has been used to describe the elements of primary cognition, may perhaps excite comment. These elements have not been stated as merely difference, agreement, time, and representation (except for the purpose of abbreviation in a few instances); but as consciousness of difference, consciousness of agreement, consciousness of time,

consciousness of representation. It will now be explained why these collocations of words have been employed. When I feel and become cognisant of the pressure of the hand upon my head, I am cognisant of a difference, agreement, continuance, and representation. That is to say, I am cognisant of a certain experience which I refer to myself as an actor or sufferer. This cognition is no cognition if *I* do not cognise. Underneath all is the Ego, the *I* which experiences, the *I* which knows. We mean then in using the term consciousness of agreement, for example, an apprehension of agreement by self, a reference of the experience to self. This reference is not itself a consciousness of agreement alone, for it is the *I* that is conscious of the agreement, and *I* am conscious that it is the *I* which is conscious of agreement. In other words, there is consciousness of an underlying something, which all these varieties of consciousness presuppose. A similar line of remark may be made to show that this reference of an experience to a self is not the same thing as consciousness of difference, time, or representation, but is presupposed in each of them. It is then incumbent upon us to add a fifth, and, if possible, still more fundamental, element to the others thus far elicited. This might perhaps be termed a consciousness of self; but the name *self* or *Ego* is the only mark we have to indicate subject-mind, a subject which is always behind every mental exercise and which never can be reached, but eludes all circumscription. And inasmuch as in the study of mind we are thus forced to objectify mind, some term which should point clearly and unqualifiedly to the fact of such objectification would seem a desideratum. The phrase *consciousness of power* is, perhaps, better calculated than any other to express this fundamental consciousness, especially as it can be characterised and distinguished readily as active and passive, thus corresponding to the two modes of mental experience, and as, in addition, it suggests analogy and at the same time makes antithesis with *force*, which is the ultimate of ultimates in the world of *not-mind*. In the fifth place, then, we write down consciousness of power as an element of cognition. It has just been observed that this consciousness is postulated in all the other elements, and it does not need detailed exposition to reveal the fact that consciousness of power in its turn demands the other four. This can be demonstrated as in the preceding case. Certainly the consciousness of power implies the consciousness of something continuing; and continuance presupposes representation, agreement, and difference.

There are, therefore, in the cognition of a simple tactual sensation, five elements, which cannot be analysed further, cannot be sublimated into each other (though all seem to rest upon

the last), and cannot be separated from each other. This, I think, exhausts the matter so far as the particular experience in question is concerned. It still remains to ask whether all cognition is the same, or whether in any cognition there is aught more or other than what has been found. I feel confident there is not: but inasmuch as no opportunity exists within the limits of this essay, to go into a very full examination of special varieties of cognition, I shall be obliged, after taking up two or three which might present difficulties, to throw upon other minds the burden of seeking and bringing forward a cognition in which is something more than, or something different from, what has been pointed out.

So far as can be determined, our earliest cognitions do not occur in connection with sensations of the character of that just used as an illustration. The feelings of which that is a type seem to come upon the passive mind; our first cognitions proceed from the mind's activity. Energy is put forth in movement and meeting with resistance, consciousness is evoked. But still, allowing this, there is no difference in the elements of cognition from the case of experience of a sensation. Suppose a child putting out his arm and striking some resisting substance, as the mother's breast. At the point of resistance, a difference is generated in consciousness between the impinging energy and the force which opposes it. Having given a consciousness of difference, all the other elements posited can be deduced by a process of examination like that just concluded.

The general discrimination of self from not-self develops also the same elements brought out in cognising a simple sensation. This discrimination probably is first made upon some such experience as that last-mentioned. Such a discrimination obviously requires consciousness of difference, for discrimination means making a difference or differentiating. It also necessitates consciousness of a personal identity from moment to moment. This knowledge of personal identity is not attained without cognition that I am the same self which had a certain experience a moment ago. There arises here precisely the same difficulty which arose in considering how to explain the ability to decide whether a sensation experienced in the past moment, and which is gone, is the same as that experienced in the present moment. How can we compare something present with something absent? In the case of personal identity, as in the case of identity of sensations, I can advance no other explanation than may be found in the fact of an original and primordial consciousness of representation. Conceding this, all the other elements take their places without confusion, and the five seem to exhaust the cognition. In cognising personal identity, we objectify ourself and

the cognition is as much cognition of an object as is the cognition of a sensation. Subject-mind cannot be brought within the limitations of thought.

Let us now suppose that instead of having a sensation of a hand upon my head, I have only a recollection of such a sensation ; in other words, an idea of such an experience. Here the cognition is duplex. In the first place there is a presentative cognition of the idea itself. I know I am having a certain experience. In this appreciable experience of having an idea, cognition is evidently of the same character as in having an original sensation. I am conscious of a difference between the idea and a preceding experience; of an identity of the idea with itself; of a representation from instant to instant in order that there may be any identification; a consciousness of time; and a consciousness of a power evolving and sustaining the idea. So far the experience, though involving representation, is comparatively presentative. But cognition goes further. I cognise the fact that the whole ideal experience is itself a representation of what I have had antecedently. I know it to be a copy or reproduction of a past experience. Now what is involved in this cognition ? In reply it may be said that at the outset there is a resemblance or an agreement between the copy and the original. Furthermore, the copy is not the same as the original; that is, there is a difference between them. Thirdly, there is a distinct consciousness that the original is represented. Fourthly, there is a consciousness of continuance of the experience: and, fifthly, a consciousness of a power reproducing and suffering the reproduction. Thus we have over again the elements of cognition of a sensation, and we do not seem to be able to get beyond them.

Again, I have many ideas which, in their entirety, do not represent any sensational experience. The mind has a tendency to associate similar and contiguous impressions. These cohere, call each other up in representation, separate and segregate, forming out of fused parts of past experiences new wholes which are not as wholes copies of any real experience. In these cases of new combinations the effect is something like that of an original presentation. It is cognised as something different from a sensation, and yet a copy of no particular sensation, though its parts are copies of past sensations or portions of past sensations. Let us assume, for illustration, that in the process of association there comes into the mind the idea of an animal with the body of a sheep, and the head and neck of a man. This, we say, is a creation of the imagination. In this experience we have a cognition of the idea as a distinct continuing idea; this needs no further explanation. Besides, there is consciousness of a representation of that experience we call the body of a sheep; also of that which

we call the head of a man. We know that both these are reproductions of past experience. But when the two are associated together, we have no consciousness of the whole being a reproduction of any thing we have ever seen. There does not, however, seem to be any explanation why we are conscious in the one case of representation, and why we are not conscious of it in the second case, except by stating the fact. Similarly with every product of imagination: the parts which make up the idea are always representative, often highly so; by differences of collocation wholes are produced which are not, as wholes, representative but presentative ideas. Out of new combinations of materials furnished by experience, wholes emerge which are not copies of experience. The process of association by which these results are accomplished is not a new or different power of the mind involving new elements of cognition from those already considered. The process, the manner of succession, the course of representation, has its own laws based upon the observed order and sequence of representations, which laws do not concern us here, inasmuch as they are relatively secondary laws of mind. There must first be cognition before there is association of cognition.

It seems, then, that every experience induces a modification of mind more or less permanent, by which the recurrence of that experience is possible, and by which, when it recurs, that return is known as a representation of past experience. It is known immediately, and the cognition of it as representative is primordial and ultimate. The mind also, in the process and sequence of representations, in effect consolidates and integrates experiences into new wholes which present themselves as units, upon which in turn, as if wholly original, the mental forces operate to preserve and represent.

We have now arrived at a point where we are better able to understand belief; and if the foregoing analysis has been successful, the true location of belief will have been more or less definitely suggested. In our prior enumeration of the objects of belief, we found belief to be interfused with memory and expectation. Bringing together the results of this examination, and the analysis of the elements of cognition, just finished, it will not be unsafe to assume that the terms *memory* and *consciousness of representation* cover essentially the same ground. *Memory* is the name given to the power or ability to recall events; *recollection* is the name given properly to the act of remembering. *Consciousness of representation* applies both to a given consciousness in a particular act of representation, and to the consciousness of a general and continual process of representation going on and having gone on in our experience, that is, the consciousness of

a power or ability to remember or represent, expectation being postulated with it. If we are permitted thus to identify memory and consciousness of representation, we shall be able to assert that so far as we have made out belief to be memory, so far also we have shown that it is consciousness of representation. We shall hence be spared the necessity of giving further illustration of the fact that belief falls in with consciousness of representation.

We have also found, however, that belief inheres in expectation. It is important then to settle the position of expectation and make clear what is the experience thereof. To explain belief by the word *expectation* is not of very much avail, for it would be a difficult task to explain expectation without belief. Nevertheless attention to the general laws of association for a moment will enable us to see more precisely what is meant by expectation. Granting the fact (which has been proven abundantly by a number of psychologists) that certain associations tend to inseparableness and become inseparable, one important step in elucidation is taken. Let us make use of a simple illustration: I believe that the sun rose yesterday morning. This is a representation of an experience that occurred to me yesterday. With this represented experience (and with the original also) is associated the representation of another and another and another —numerous experiences, a series, of the same sort. I have a recollection of certain divisions of time past which I denominate mornings. Whenever I think of one of these divisions, there arises, inseparably connected with it, the idea of the others. I follow along the line backward and never reach the end. When I think of a last morning (that is last in the series), the association of another still beyond rears itself. I then return over the same line till I come to yesterday. The association of this morning springs up as still more recent. The idea of this morning by irresistible association brings forth the idea of another morning, which is the idea of a future; and from that the process goes forward without end in the same manner as in the opposite direction. I distinguish this idea of a to-morrow morning from the idea of a yesterday morning by the particular consciousness of representation which is involved with the idea of yesterday, and absent from the idea of to-morrow. I recognise the idea of yesterday as a reproduction of an actual experience past and gone. The idea of to-morrow I recognise as a copy of that actual experience, but without the representation of its having actually occurred. Now when I review my experience of mornings, I find inseparably associated therewith the idea of the sun rising. I have a consciousness, too, of a representation of the fact that the sun actually rose, and I witnessed it on each of those occasions.

(It is not necessary to take into account days of obscuration and late rising.) Therefore, as the idea of a to-morrow morning occurs, there is united with it the association of myself as witnessing the sun rise, or witnessing it having risen. This is expectation or belief that the sun will rise to-morrow.

So also the process is similar when I believe a thing will happen to me of which I have had no experience. I believe I shall go across the ocean to London ; a place which I have never visited, having never been beyond the seas. In order to have such a belief, I must have a distinct idea of going to London. This idea is derived from past experience. Upon testimony I believe that others have gone to London, and, recognising myself as similar to others, I attach the idea of myself to the idea of going to London. Certain circumstances as pleasure of travel, or calls of business, make me desire to go to London. I have an incipient volition to go. If there be no opposing considerations sufficient to deter, I form the intention of going. My past experience has been that whatever I have intended to do (which any one may do) I have more or less regularly done. Accordingly, I class this intention with other intentions fulfilled, and transfer by association the idea of a fulfilment of intention to the idea of going to London. I then say, I believe I shall go to London, or I expect to go. There is no new element of cognition introduced ; there is only a peculiar arrangement of cognitions.

Again, we may take the belief in death, to come to me in common with other men. This belief arises from a common observation of certain phenomena called death, as occurring to all sentient beings, with which class I associate myself. Many men of whom I have heard have died ; the number of those who have died is vastly in excess of those now living. The associations of death thus come to be connected with all men, and with myself among the number. I believe, therefore, that I shall die. But I recognise the ideas as divested of the representation which is present when an actuality, an event already happened, returns in idea.

Conditional expectation furnishes a higher complication of association, but does not bring in any new elements. 'I expect to go to Boston, if John goes'—requires an idea of John going antecedently, and an idea of myself going consequently. My intention to go depends upon his going. My belief is, that I shall go—not absolutely, but after some other event shall have taken place. These various ideas are made up of representative material ; the expectation involves a difference in order and association, but postulates the same elements of cognition as in recollection. So also where a belief is generated in connection with a condition contrary to fact ; 'If John had gone to Boston, I

should have gone'—may be analysed roughly, as follows: John did not go to Boston; I did not go; it was possible for John to go; it was possible for me to go; John's antecedent going made it desirable for me to go, and associated with his going I had a desire and intention to go; my intentions in the past similar to this have been fulfilled generally; the idea of myself going under certain circumstances is associated with the idea that those circumstances did not exist (though possible), and that I did not go. I declare, therefore, 'I believe I should have gone'. My expectation thus appears to be a combination of representations. That John did not go and that I did not go are both representations; that it was possible for John and possible for me to go are beliefs coming from past experience; the association between my intention to go and his going is representative; the generalisation in regard to fulfilment of intention is also representative; and so forth. Expectation, then, seems to be nothing more, intellectually considered, than representations of past experiences, associated together in certain peculiar modes.

The state called expectation is further marked by a volitional condition of preparedness to act, indicating desire, intention, or resolution. This does not constitute the belief, which depends more directly upon the associations, but varies with the strength of the associations and of emotion accompanying the same; and as the volitional impulse varies, so the expectation is said to be stronger or weaker. This determination toward action seems an essential characteristic of expectation.

From what has been elicited thus far, it follows that consciousness of representation is a fundamental element in the act of believing. But it has been shown in some detail that consciousness of representation involves and presupposes consciousness of agreement, consciousness of difference, consciousness of time, and consciousness of power. Each one of these four, consequently, must be postulated also as primitive elements in believing. And the examination thus far conducted reveals no other intellectual constituents, nor is it easy to suggest any other. We shall be forced then to the conclusion that these are the ultimate facts of belief.

But now an apparently serious objection will, undoubtedly, be made. According to this analysis, it will be said, to believe and to know are precisely the same thing; both have exactly the same constitution. To believe is to be conscious of representation, agreement, time, and so forth; equally so is to know. In answer, it may be urged that because a power has a certain and uniform constitution, it does not follow that all its exercises are the same; and if there be exhibited two quite dissimilar or two opposed phenomena, we are not wholly precluded

from ascribing to them a common origin. They may be the obverse of each other. The differences may be in the attendant circumstances, and not in the source. It is very evident that, when using language accurately, 'to know' does not mean the same thing as 'to believe'. But, so far as we are able to make out, the process, the act is, in the two cases, absolutely identical. We must look, therefore, for the real difference to that upon which the mental process is exercised, or to the manner of its exercise. And it will not take us long to discover that difference.

Let us discard for the moment the words *knowledge* and *belief*, and signify the act of mental apprehension by the term *cognition*. In order that there may be cognition, there must be something cognised. That which is cognised is broadly distinguished as presentative and representative. Accordingly, we may distinguish cognition into presentative and representative cognition. Now it is true that there is no presentative cognition that does not also involve representative; and no representative cognition that does not involve presentative: but there is a preponderance of one over the other. There are times, as when great strength of feeling prevails and the mind is engrossed with a powerful sensation, when the state of cognition is a conspicuously presentative one; there are other times, as in a train of reflection undisturbed, when the presentative side of the experience is mostly underneath and the representative in the ascendant. In proportion as cognition is presentative we are said to know; in proportion as it is representative we are said to believe. Cognition, viewed on its presentative side, is knowledge; on its representative side is belief. In other words, belief varies as the representative element. These statements are in full accord with the results of the foregoing analyses. Belief exists in expectation, which is a highly representative experience; in the reproduction of all sorts of past experiences simple and complex; but is not ascribed to the experiences of sensations, or of ideas, as ideal presentations. If then we were asked to define believing, we could say that it is representative cognition, or more exactly, perhaps, the cognition of an experience as representative. To call it the cognition of a representative experience would not answer the purpose, for such a cognition might be a knowing if it merely took cognisance of an experience, which happened to be representative. When, however, it cognises the experience *as* representative, the cognition is a believing.

More clearly still appears then the intimate connection between knowledge and belief. They are not only the same in elementary constitution, but they exist concurrently, and one is necessary to the existence of the other. They are the obverse of each other. We have seen that there is no cognition without

representation, and every representation involves belief; and there is no representation without presentation, so that all believing involves knowing. The two are primordial and complementary. The same interdependence is observable when knowledge and belief are regarded as products. Knowledge as a product is the accumulated body of cognitions which form the mind's function. These cognitions are representative mainly, and composed of representations. The stock of knowledge is hence made up by many acts of believing, and is itself a vast congeries and aggregate of beliefs. No antithesis should be made, therefore, between knowledge and beliefs as products. Our beliefs are a part of our knowledge and by far the greater part.

The differences in what is commonly termed the intensity of belief furnish confirmation of the views here maintained. Some of our beliefs we are accustomed to regard as very strong; others we consider exceedingly weak. I have a maximum of confidence that to-night will be succeeded by morning, or that the stone I throw up will fall to the ground. I have a moderate degree of trust that the morrow will be fair and cloudless; a small degree of belief that a stone thrown by me will strike a bird on the fence top. I believe weakly that Captain John Smith had his reputed adventure with Pocahontas. An inquiry as to the explanation of grades in the intensity of belief elicits only the fact that the difference is a difference in strength of representation. This strength of representation may be either a tenacity of union between two associations by virtue of which they become more or less inseparable, or it may be reproduced strength of feeling connected with the experience. I may believe, implicitly, that my mother whipped me on a given occasion. The circumstances of the whipping are reproduced with great vividness, and there is a representation of the feelings then experienced to a degree sufficient to cause cringing, anxiety and distress. Particular associations call out strong forms of emotion which attach to those associations and are represented; these emotions hence attend our beliefs and make them stronger or weaker, as we say. The intensity, however, is intensity of feeling accompanying the associations, and does not constitute the associations, nor does it constitute the belief. In such cases, by intensity of belief is meant intensity of feeling concomitant with belief. In the other class the term strength of belief indicates the strength of the associations. In the example of Captain John Smith and Pocahontas above cited the belief, whatever it is, rests upon testimony. I first read the story of John Smith and Pocahontas at a very early age in some history. I had been told by my parents or other instructors that what was related in this history was true, and my uniform experience had been that my instructors and parents

told the truth. Accordingly, I believed the story in question. I read the same given as fact in other books, and every time I thought of the incident there was represented a strong association between the story and an actual occurrence of the facts therein stated. My belief, therefore, was strong in the truth of the narration. But a few years ago I met with considerable sceptical criticism of those accounts. The former association was weakened thereby, and now when the narrative is brought before me, the association between the story and actual fact is weak; in the same measure my belief is weak. So also my uniform experience has been that night is followed by day; with the thought of night is reproduced inevitably the association of day. On the contrary, the idea of a cloudless day is not represented with certainty. My experience has not been that days are uniformly cloudless; many of them have been just the reverse. The belief then is more or less variable, according as I see certain signs which evoke past associations of various degrees of strength pointing on the one hand to cloudiness, and on the other to clear sky for the morrow. The same principles obtain in the other examples. My experience of gravitation is uniform; my experience of the certainty of my aim has been variable. In the one case there are strong associations growing out of the uniformity; in the other the associations are weak, because of the variations of experience. My belief is dependent upon these uniformities and variations of association, waxing and waning with them.

The word *belief*, or its verb, is sometimes employed to express a less degree of certainty than the word *knowledge*, or its associated words. I ask a person if he knows a certain thing, and he answers: 'I do not *know* it, but I *believe* it'; intending thereby that he is not so certain of the thing in question as if he knew it. In all such instances, I apprehend, the speaker makes a distinction, by which he includes under the term *knowledge* the "things we see," and the things seen remembered, while belief is of things to which testimony is borne. A very little reflection must convince one that both this distinction, and any assumed difference of certitude between knowledge and belief are vulgar errors born of and breeding confusion. In the first place, the line between believing and knowing is not correctly drawn; there is as truly belief in remembering one's own experience as in relying upon testimony of other people to what one has not one's self witnessed. And secondly, while it is very often true that belief on testimony is less reliable than the remembrance of a personal experience, it is equally the fact that, in many cases, a direct experience and remembrance are not, objectively considered, as trustworthy as an opinion based on tes-

timony. I believe that the city of Paris exists; this is, in my case, a belief on testimony. I believe that I called with my father on Oliver Wendell Holmes, when I was six or seven years old. In my recollection of what occurred at so early an age, I might readily be mistaken and confound the experience of somebody else with my own. This is not of infrequent occurrence. Prof. Bain (*Emotions, &c.*, p. 535) cites an instance of a late distinguished man who had sometime before his death, at a great age, declared positively that he had seen Mirabeau in London, though the known facts of Mirabeau's history were entirely against him. But my belief in the existence of Paris may rest upon an immense weight of testimony in regard to which the probability of error is infinitesimally small. Such a belief is more trustworthy than are many beliefs from remembered experience. And, subjectively, there is exactly the same degree of certitude created by a state of belief as by one called of knowledge. We are accustomed to consider that there is no higher degree of certainty than of things immediately present to our senses. True enough: but without the assurance that I saw a second ago the tree I am looking at now, my present certainty of sight falls to pieces from lack of continuity. The certainty that I saw the tree a second ago is a certainty of belief. Belief and knowledge, therefore, are alike as to certitude, varying equally and according to the same laws. We are not more certain of a thing, because we know it than because we believe it, nor the converse. Certainty depends upon the union and integration of associations; a strong association begets certainty, a weak one uncertainty; and associations involve both knowledge and belief. The popular antithesis as to certitude between knowledge and belief is hence wholly fallacious. It would lead to much less misapprehension, if instead of saying to indicate my assurance 'I know it,' I should say, 'I am certain of it; and if to denote a less degree of certainty, in place of the expression 'I believe it,' I should employ some qualifying phrases as 'I am not quite certain of it,' or 'I am tolerably (or moderately) sure of it'. It is quite hopeless, however, to relieve language of ambiguities or to purify its use by suggestion, no matter how patent may be the imperfection or misuse. Augean stables could more easily be cleansed with a hose-pipe.

Before summing up I will advert again to some of the views mentioned at the beginning, and first of all Prof. Bain's. This psychologist lays down as "the genuine, the unmistakeable criterion of belief," "preparedness to act upon what we affirm". But how can my belief in what is past be considered preparedness to act when there is no occasion for action? He answers by saying—"I believe that I yesterday ran up against a wall to

keep out of the way of a carriage. I have no disposition to do anything in consequence of that conviction; yet I call it a conviction and not a mere notion, because I am affected by it in the same way as I am by another recollection that I do act upon. I feel that if there were any likelihood of being jammed up in that spot again, I should not go that way if I could help it, which is quite enough to show that in believing my memory, I have still a reference to action more or less remote." It may well be doubted whether the thought that I should avoid such an experience if I could, has anything to do with the state of belief; the belief is complete without that. The mere recollection of the circumstance is sufficient for belief. I may have no more thought of avoiding than is necessitated by the representation of my own efforts to get away at the time I was jammed up; I may not even have that and yet believe. Moreover, supposing while I stood in the narrow passage-way a stone had fallen upon my foot: the pain would have generated a "preparedness to act," would have demanded action; and yet the experience would have been an entirely presentative one, a matter of knowledge and not of belief. We might as well say, then, that "preparedness to act" is a criterion of knowledge. So far as I am able to make out, "preparedness to act," in Prof. Bain's view, means nothing more than incipient volition in the forms of desire, intention, resolution, and the like; and these certainly are no more attendant upon belief than upon knowledge. Of course it may be freely allowed that volition is present in all mental experience; that every state of consciousness has its volitional side. So far forth then as all mental states involve belief and all have a volitional side tending toward activity, so far and no further is preparedness to act associated with belief and the latter with the former. This is the modicum of truth in Prof. Bain's idea. But to make such a determination toward action the *test* of belief is unsatisfactory and inconclusive; it does not explain anything. Even in expectation with reference to which the phrase has a force not elsewhere obtained, the belief is after all a matter of representation, which is conceivably separable from the volitional impetus existing in expectation, although the latter be present also. The expectation that I shall go to Philadelphia depends upon a number of representative beliefs, the union of which generates this particular belief and which carry with them a volitional impulse though the latter is not an essential element in the belief any farther than volition is essential to all cognition. A state of weak belief, so called, may be as completely and perfectly belief as if it were stronger, though in the former case it does not develop with it the preparedness to act which it

does in the latter. An affirmation involves belief, which *is* belief in all essential qualities, though we may not be prepared to act on what we affirm. In fine, Prof. Bain does not seem to me to be as successful in his attempt to ally belief with activity principally as are those who regard it mainly as an intellectual state, and he himself recently seems to incline to the latter view (*Ment. and Mor. Science*, Note in Appendix).

Nor is one satisfied with Prof. Bain's factor of a "primitive credulity". To say that belief is founded upon primitive credulity means no more than that knowledge is founded on primitive cognition. If, however, as we may possibly suppose, he intends in this language to affirm that belief is a primordial experience, he has enunciated an important truth; but it is to be regretted that he did not make his meaning a little clearer. He seeks to support "primitive credulity" as a leading element in belief by calling attention to what he considers the fact that "belief is distinguished when we suffer the shock of a contradiction, a check, or disappointment in some career of activity". Apparently he means that we believe everything without knowing that we believe, till we are contradicted and our confidence receives a shock. Then from repeated disappointments scepticism is produced, and we have "two opposing tendencies—primitive credulity and acquired scepticism". The fair inference from his statements is that "acquired scepticism" is not belief at all, but the opposite of belief. Now, if the preceding examination has been a thorough one, it will be evident that this acquired scepticism is not explicable except under the supposition that it also involves and requires belief. In early childhood I believed what everybody told me; when any person theretofore unknown told me anything, I reproduced past experience of the truth of whatever had been told me, and in accordance therewith I believed the new comer's statement. But presently I found that something told me was not true. An association was then started between a story told and a state of facts contrary. Not being more fortunate than the generality of mankind, I soon had a shock of these latter experiences. Accordingly, when a person now tells me something, I have a representation of various cases where there is an accordance between what is told me and the fact, on the one hand; and on the other, a representation of various cases where there was a non-accordance between what was told me and the fact. In regard to the former, I believe that I did meet with such accordant experiences; in regard to the latter I believe that I was in such ways deceived. Both are matters of belief and I am at a loss whether to associate the present tale with the one class or the other. Associations pulling in opposite directions

create a state of uncertainty and perplexity. Doubt is not the absence of belief but the opposition of beliefs; as association widens its range they continually contradict each other, creating as far as action is concerned wavering and hesitation. With this differentiation of associations and the following integration belief is all the time and all the way through involved and is never absent. The conflict of motives to action occasions deliberation and in that deliberation the component parts of thought are beliefs in one direction and another, varying according to remembered experiences, drawing this way and the other and every way, until the strongest set of beliefs overpowers the others, and determines action. Where the stock of represented experiences is smallest, there the credulity is greatest—not, however, because there is more belief, but because there is less; that is to say, because there are represented fewer beliefs in experience and there is less contradiction of experiences. So incredulity or scepticism indicates not a small number of beliefs but a large number; so large that they balance and hold each other in check. Is there then no opposite to the state of belief? it may be asked. I answer, no more than there is to a state of knowledge. The term *ignorance* may express the opposite of both: but this must be taken in a limited sense; we are never in a state of absolute ignorance. Perhaps *unbelief* might be used as an opposite of belief, if its meaning of simple absence of belief could be preserved and it is not confounded with *disbelief*, which is belief in a contrary or contradictory. This word, however, must be employed qualifiedly, with regard to some specific object or objects of belief. We are never in our conscious experience, out of a state of belief; although we are not always believing the same thing, or believing in the same degree of association, or with the same associates of feeling and volition.

Prof. Bain is quite right in placing as a necessary element in belief, "some cognisance of the order of nature". But the order of nature is nothing more than our uniform experience in certain directions by which inseparable associations are generated and represented continually in our mental life. As these representations are made, we believe; and in proportion to the strength and uniformity of such associations our belief is strong.

The question may again force itself upon our attention at this point—Is not after all belief, as James Mill thought, simply inseparable association? The reply must be in the negative, because there is belief when the associations are not inseparable. But may it not be at least association and nothing more? Still the answer must be, no. It is not association because it is

presupposed in order that there may be any association at all. A careful reperusal of the earlier of these pages, wherein I endeavour to show that belief is involved in every representation, and that no cognition and hence no association is accomplished without consciousness of representation, will be sufficient, I think, to satisfy this query, without further repetition on my part. Again, therefore, we are brought to the conclusion that belief is primordial and an original part of cognition.

If this article falls under the eye of anyone not familiar with Prof. Bain's works, I hope he will not infer from what I have said that this author has any particular theory of belief which he is bent on upholding. No man is more thoroughly and impartially an observer and chronicler of facts than Prof. Bain, and no objection is here offered to the large mass of facts collected by him but only to some aspects under which he seems to regard them. The criticisms here passed are not at all for the purpose of creating an impression of the inferiority of Prof. Bain's results of study. It is not too much to assert that psychology proper owes more to him than to any other person living or dead. But upon this particular topic, I cannot help thinking that J. S. Mill saw the way a little more clearly; and, if we may judge from what he has given us, it can hardly be doubted that, had he turned his attention chiefly to psychology, he would have left little to be done on this subject by any one who should succeed him.

I am unable to discover in Mr. Sully's idea of the origin of belief anything more than cognition of experience as representative. He considers that in "the partial reproduction of a past sensation by the medium of a present idea felt to be like it, one seems to find the origin of the oldest and most simple form of belief. For, as sure as this experience becomes possible, and the present idea and the absent sensation are distinguished, it seems certain that the mind would fall into the attitude of belief with respect to the absent sensation. In other words, if the infant could fully describe to us its state of mind, it might not improbably do so by saying, 'There is something in my mind that carries thought away to another thing brighter and better than itself, which thing is not exactly in my mind just now, but yet seems near and ready to enter it'. In the inexplicable fact that a present idea carries on its face the mark of its origin, and reminds of the sensation which preceded it, we appear to have the last accessible stage in the history of belief. Belief and memory in the sense of the idea pointing to the absent sensation, appear to be mutually involved in this unanalysable mental process, neither being conceivable apart from the other." This passage exhibits Mr. Sully's views as well as does any. His position is

substantially the same as that of J. S. Mill in the latter's conclusion of a radical difference between an idea as such and a remembered occurrence. The whole drift of Mr. Spencer's thought would seem to be in the same direction, and such as to authorise just these conclusions, though I am not aware that he has gone into any exhaustive special discussion of belief. Prof. Bain also, in one place, allows, I think, the same state of things contended for by Mr. Mill and Mr. Sully, when he asserts a normal power of distinguishing,—"(1) a sensation; (2) an idea of what has been a sensation, or actuality; and (3) an idea of what has never been a sensation, but is artificial, though constructed out of sensations" (*Emotions and the Will*, p. 533). All these expressions seem to point to the results—(1) That belief is something original and primordial; and (2) that belief is involved in some way essentially with the representative power and representation. Mr. Sully occupies himself principally with the conditions of the varying directions and intensities of belief, giving up all attempt "to resolve the phenomenon into more primitive modes of mental activity". Into this field we are not called upon to follow him, as our present concern is not with tracing the growth and ramifications of belief, but with a study of its sources and genesis.

In conclusion, we may condense the results of this examination into the following enunciations:—

First. Knowledge is a product resulting from a process of knowing: Belief is a product resulting from a process of believing. The products are explained by the processes; having one piece of Knowledge or Belief, the rest is but an accumulation of things which have the same constitution.

Second. Every act of cognition, from the earliest to the latest, involves five undecomposable elements, each of which presupposes and is presupposed in all the others, namely, Consciousness of Difference, Consciousness of Agreement, Consciousness of Time, Consciousness of Representation, Consciousness of Power. Every act of Believing, from the earliest to the latest, involves precisely the same elements.

Third. Knowing and Believing are present, then, with the dawn of consciousness, and in every subsequent act of cognition. There is no Knowing without Believing, and no Believing without Knowing. There is no Knowledge without Belief, and no Belief without Knowledge.

Fourth. From the beginning of consciousness, cognition proceeds in two broadly marked divisions, Presentative Cognition and Representative Cognition; the former referring to present experience, the latter to reproduced experience. This division, however, is only relative, for every Presentative Cognition

involves and requires Representation, and every Representative has a Presentive element.

Fifth. Belief is allied with Representative Cognition, varying with the degree of representation; where the Representative element is in the ascendant, the state of consciousness is said to be more of Belief than of Knowledge, and where the Presentative element is prevailing, it is said to be more of Knowledge than of Belief. Believing may be described as the consciousness of an experience as representative. This is as near an approach to a definition as is here attempted.

Sixth. The term *intensity*, as applied to Belief, has no more relevancy than if applied to Knowledge. What is ordinarily termed intensity of belief is either close union of associated ideas, or strength of feeling accompanying the reproduction of experiences. As feeling accompanies every cognitive experience, being another side of that experience, so feeling accompanies every experience of Belief and every act of Believing.

Seventh. As every cognitive experience has also a volitional side, so also every state of Believing has a volitional aspect. No Belief occurs without some volitional determination.

Eighth. The natural history of the growth of Belief is the natural history of the growth, expanse, and integration of associations. Whatever determines association determines Belief. Belief follows the course of association, for association is association of Beliefs in that it is association of cognitive experiences.

Ninth. The total absence of Belief is absence of consciousness; but there may be absence of Belief in regard to particular objects, just as there may be absence of Knowledge of particular things. The term *ignorance* covers both of the latter states, though *unbelief* in the sense of negation of Belief may be more distinctively applicable to the first of the two. Disbelief is merely Belief in an opposite, contrary or contradictory. Doubt arises not from absence of Belief, but from conflict of Beliefs.

In the discussions of the Schoolmen, therefore, as to the relative priority of knowledge and belief, both sides were right. Anselm's *Crede ut intelligas* was no more true than, and was just as true as, Abelard's *Intellige ut credas.* In knowledge is belief, and in belief, knowledge; neither exists without the other, and in the complete absence of either, conscious experience would be void.

Daniel Greenleaf Thompson.

IV.—ON SOME PRINCIPLES OF LOGIC.

It must have occurred to many readers of Mill's *System of Logic*, and Professor Bain's work on the same subject, that by abandoning the synthetic order of exposition, which used to be a characteristic feature of the science, something had been lost, not only in form and architectural effect, but even in intelligibility. Prof. Bain's account of the natural order of logical topics (*Logic*, Introd., § 55), appeared to me so much better than his reasons for not adopting it, that I formed the project of writing something, however sketchy, to exhibit that order by actually embodying it. Afterwards, on reading Mr. Herbert Spencer's *Principles of Psychology*, the distinction drawn in Chapter viii. between Logic and the Theory of Reasoning, and the view taken of Logic as a science of things, or of the "most general laws of the correlations of existences considered as objective," seemed to me so true and important, that I also formed a project of writing something to realise this suggestion. And on reflection these two projects harmonised so well, that the result was an essay, of which the main heads are given below,* and some of whose principles I wish to submit to the consideration of thinkers in this paper.

Perhaps to make everything clear it will be well to quote at length from Mr. Spencer the passage just referred to (*Psychology*, § 302):—

"A distinction exists which, on account of its highly abstract nature, is not easily perceived, between the science of Logic and an account of the process of Reasoning. . . . The distinction is, in brief, this, that Logic formulates the most general laws of correlation among existences considered as objective; while an account of the process of Reasoning formulates the most general laws of correlation

* *Theory of Logic:* an Essay. General Purposes: (1) to treat Logic as a Science of matters of fact (not of thought, or language); (2) to return to the synthetic order of exposition. Ch. I., Of Relations. Ch. II., Of the Terms of Relations. Ch. III., Of the Immediate and Mediate Comparison between Single Terms, &c., contains a statement of the most general laws of the correlation of phenomena, equivalent to the most general conditions of valid inference; such conditions being considered as laws of nature. Ch. IV., Of Classes. Ch. V., Of the Discovery of Classes—Definition and Probation—contains a discussion and statement of the Law of Causation; and thence a systematic deduction of the Experimental Methods; Doctrine of Kinds, &c. Ch. VI., Of the Immediate Comparison of Classes, corresponds to the theory of Judgments or Propositions in Scholastic Logic. Ch. VII., Of Hypotheticals. Ch. VIII., Of the Mediate Comparison of Classes (Syllogism), contains suggestions toward modifying the Axioms of the Mediate Comparison of Classes; theory of the Syllogism as comprising five Terms; new arrangements of Mood and Figure, &c.

among the ideas corresponding to these existences. The one contemplates in its propositions, certain connections predicated, which are necessarily involved with certain other connections given: regarding all these connections as existing in the *non-ego*—not, it may be, under the form in which we know them, but in some form. The other contemplates the process in the *ego* by which these necessities of connection come to be recognised."

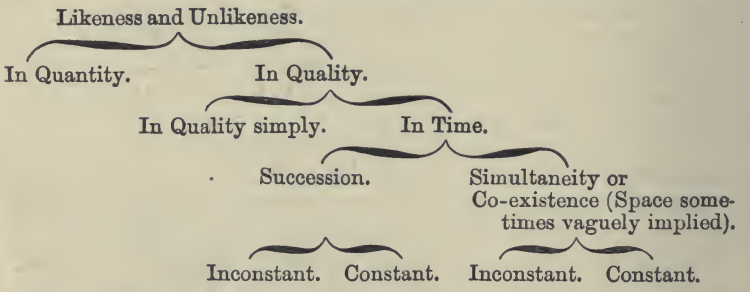
On this passage I have to remark, first, that it limits Logic too much. That science may very well consider the correlations of ideas among themselves; only not as in correspondence with other things: thus differing from Psychology, of which the theory of Reasoning is a branch, somewhat in the same way, as Mr. Spencer has elsewhere (§ 53) pointed out, that Biology differs from Psychology. Secondly, the above passage does not limit Logic enough; for Logic, I conceive, deals only with laws of phenomena; and for my part, I should be sorry to be found predicating anything concerning connections under some form in which we do not know them. But with these qualifications we may accept the passage as giving a clearer account than is to be found anywhere else of the essential nature of Logic.

I am happy also to accept Mr. Spencer's definition of Logic; which is stated in his tabular view of the Abstract Sciences thus:—Logic deals with the "laws of relations that are qualitative; or that are specified in their natures as relations of coincidence or proximity in Time and Space, but not necessarily in their terms; the natures and amount of which are indifferent. (*Classification of the Sciences*, Table I.)

Qualitative Relations of Likeness and Unlikeness might perhaps have been included in this definition; unless their inclusion should be regarded as too much a matter of course to need special mention. And in working out the science it has been found convenient to take some account of quantitative relations: logicians have treated of classes chiefly in their extensive, which is also their quantitative aspect; and Prof. Bain has much improved the statement of the Law of Causation, by including in it purely quantitative considerations of the Conservation of Energy. These, however, are deviations from logical treatment, strictly conceived, for the sake of convenience or power—exceptional, not exemplary proceedings; and setting such matters aside, we shall find Mr. Spencer's an adequate definition of theoretical Logic; and it has the merit of leading directly into the subject.

We learn from it that the elements of Logic are qualitative relations; so that our first business is to enumerate these, and classify them. This is not a fresh investigation, but one which has been prosecuted by a number of writers in analysing the

import of propositions; and in this way the enumeration of ultimate relations appears to have been completed by Prof. Bain (*Logic*, B. I., c. 3, § 17), who gives a list of three: Equality (the most definite Likeness), Co-existence, and Succession (coincidence or proximity in Space and Time). Or if it be attempted to carry the analysis further, we may perhaps regard Co-existence and Succession as modes of Likeness and Unlikeness, namely, with respect to Time. The most important subdivisions are these: Likeness may be either quantitative or qualitative; Co-existence and Succession may be either constant or inconstant. Let us make a Table of these Relations—



This classification might be carried further, but for our present purpose there is no need. We only observe that when relations of Succession in Time and Co-existence in Space are *measured*, they pass over to Mathematics.

Our next step must be to take some account of the Terms of relations, not indeed for their own sake, but in order to further explicate the nature of Relations. And, first, Terms must be classed as either simple or compound; for as a consequence of this, Relations, too, are either simple or compound. And simple Terms are either Feelings and simple Qualities, or Relations themselves. It is an important truth that every relation is itself a term of another, and indeed of innumerable other relations; and any law of relationship is equally true, whether the relations primarily contemplated unite, or tie, mere terms, or other relations, or relations of relations. This fact gives immense reach to the simplest law of Logic.

So much as to the elements of Logic; we now come to the laws of those elements: and first, as to the relations of Single Terms. I have been a little surprised to find that the principles of Identity, Contradiction, and Excluded Middle do really stand at the threshold of Logic; for I had been led to think of those venerable pillars of science and faith with unbecoming contempt; but they suddenly confronted me in disguise, so to speak, when I was not at all looking for them. As to Identity,

indeed, it is a matter of definition. If we call vague likeness, similarity, and indistinguishable likeness, sameness or equality, we may give the name of identity to a certain complex sameness. To be called identical, a thing must be the same with itself from time to time; and, if an object, its position must be persistently the same, or its changes of position must be rationally accounted for; but the definition of identity does not seem to be quite the same for all kinds of terms.

The principle of Contradiction, which in Logic would be better called the principle of the Mutual Exclusion of Terms, depends upon the fact that an identical relation has only two ends, or ties only two terms; so that any two terms being related in any way, no other term can enter into that relation. One term cannot stand in an identical relation to a second and also to a third, or to the absence of the second, or to a duplicate of the second ($x = x^2$).

The principle of Excluded Middle, or Alternity, rests upon the fact that, given any relation terminated at one end, every remaining term in the world must either terminate the other end or not; and cannot both terminate it, and not.

The principle of Identity, viewed as persistent sameness, may be said to formulate a relation of a term to itself (from time to time). The principles of the Mutual Exclusiveness of Terms, and Alternity, express the facts that a relation must have two terms, and cannot have more, and that every term must be related. Let us go on to consider how an identical pair of terms may be connected by more than one relation.

Relations that tie the same terms may be said to coincide. And there are certain relations that must coincide; or, rather, there are certain relations such, that if one of them obtain between two terms the other must; though the converse is not necessarily true. A relation with which another *must* coincide may be said to implicate the second; thus, Simultaneity implicates Non-succession. Relations that *can* coincide are compatible: such are Likeness and Co-existence. Relations that *cannot* coincide are incompatible: such are Simultaneity and Succession, and Likeness and Unlikeness. And here we see the necessity of distinguishing between simple and compound Terms; for compound Terms may be alike in some qualities and unlike in others; and in that case, Likeness and Unlikeness do not coincide, but are only compounded. Incompatibility is obverse implication: if a relation, incompatible with a second, obtain, it implicates the absence of the second relation; as Likeness implicates the absence of Unlikeness.

These considerations are parallel to the modes of Opposition between judgments or propositions in Scholastic Logic. Simi-

larly, we may convert these relations of Single Terms; and I am happy to be able to quote the formulæ of these processes from Mill:—"When one thing is before another, the other is after. When one thing is after another, the other is before. When one thing is along with another, the other is along with the first. When one thing is like (or unlike) another, the other is like (or unlike) the first."—(*Examination of Hamilton*, p. 466, 3rd ed.)

In speaking above of the implication of one relation by another, we touched the constitutive principle of Logic. Logic might be defined as the science that investigates the most general conditions of the implication of relations. The fundamental assumption is that certain relations among phenomena are evidence of other relations; or, that there exist constant correlations; and the question is, what are these correlations? One of them we have just met with, namely, correlation by necessary coincidence, or Biterminal Correlation: where the Relations compared are conjoined at both ends. If we call any relation directly known, *explicit;* any relation not directly known, but involved in explicit relations, may be called *implicit.* In Biterminal Correlations an Explicit and an Implicit relation coincide; and such implication may be called Immediate. But there are cases in which a relation between two terms is implicated in explicit relations with which it does not coincide—in relations which obtain between its own terms, severally, and some other term or terms; and such implication may be called Mediate.

It was formerly supposed that the unit of all Mediate Implication (in Logic) was a correlation of three terms; such as we have in the Axiom, 'Things which are equal to the same thing are equal to one another'; and this was also supposed to be exemplified by the syllogism. Mr. Spencer, however, has found an equally important unit of Mediate Implication in a certain correlation of four terms. The whole of this subject is discussed from the psychological point of view in Mr. Spencer's *Principles of Psychology,* especially in Chapter viii.; and I must confess myself astonished to find in recent works on Logic so few references to that important dissertation. The units of Mediate Implication may be thus stated:—

(1.) Where the relation of two terms to one another is implied in the relations which they severally bear to a third; as if A = B, and B = C, we know that A = C.

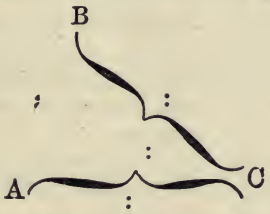
The mental correlation corresponding with such a fact, Mr. Spencer calls an intuition of conjunct relations, because the relations compared are conjoined or have one term in common.

For logical purposes I propose to call the fact itself a Triterminal Correlation.

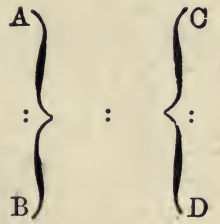
(2.) Where a relation between two terms is implied in the relations which they severally bear to two other terms, and the relation which those two other terms bear to one another; as if a circumstance, A, be like C, the known cause of D, we know that A will produce an effect, B, similar to D.

And in this case Mr. Spencer calls the corresponding correlation of Ideas an intuition of disjunct relations, because the relations compared have no term in common. For logical purposes I propose to call the fact itself a Quadriterminal Correlation.

These units of mediate implication Mr. Spencer admirably represents by two symbols, which I will take the liberty to reproduce here; only making a slight alteration in the symbol of Triterminal Correlation, which may be written thus:—



In this symbol the explicit relations are A : B, B : C; and A : C is implicit; a comparison is therefore indicated between an explicit and an implicit relation; whereas, in the way in which the symbol is written by Mr. Spencer, I understand a comparison to be indicated between two explicit relations. My reasons for the change will be given at length elsewhere: I will now only remark that the symbol as written above agrees best with the symbol of Quadriterminal Correlation: wherein, also, the relations between which a comparison is indicated are one of them explicit and the other implicit. Let the relation C : D imply A : B.



The most general laws or rules of these correlations of both orders have also in one or two places been hinted at by Mr.

Spencer. (*Psychology*, Vol. II., p. 107.) Before stating them it will be convenient to agree upon the following signs of relationship—

Relation in general,	:
Likeness in general,	a
Equality or Sameness,	=
Unlikeness,	η
Co-existence,	ω
Non-Co-existence,	o
Succeeded by,	υ
Succeeds,	$\cap$
Non-succession,	ϵ
Concomitance in general,	$\omega.\upsilon$

Rule of Triterminal Correlation.

Two terms homogeneously related to a third, and one of them positively, are related to one another as the other is related to the third.

I call this a Rule, rather than an Axiom, for it is too general to be quite self-evident, and, moreover, one or two slightly exceptional cases have to be allowed for. The true Axioms are, I conceive, the following special laws of the different orders of fundamental relations,—laws which embody the above rule, but can hardly be said to be derived from it.

1st, Likeness and Sameness—

$A = B \overset{=}{a} C \therefore A \overset{=}{a} C.$	
$A = B \eta C \therefore A \eta C.$	
$A \eta B \eta C \therefore$ ——	(No Positive.)
$A a B \overset{a}{} C \therefore$ ——	(Too indefinite.)

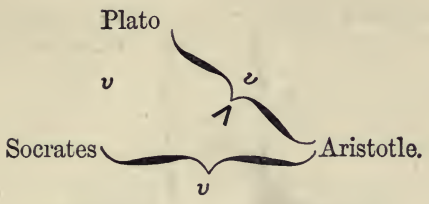
2nd, Co-existence—

$A \omega B \omega C \therefore A \omega C.$	
$A \omega B o C \therefore A o C.$	
$A o B o C \therefore$ ——	(No positive.)

3rd, Succession (ω signifies Simultaneity)—

$A \upsilon B \upsilon C \therefore A \upsilon C.$	(*à fortiori.*)
$A \omega B \upsilon C \therefore A \upsilon C.$	
$A \omega B \epsilon C \therefore A \epsilon C.$	
$A \upsilon B \epsilon C \therefore$ ——	(Too indefinite.)
$A \epsilon B \epsilon C \therefore$ ——	(No Positive.)
$A \upsilon B o C \therefore$ ——	(Too indefinite.)

Let us symbolise one of these correlations with concrete terms:—



The axioms of Triterminal Correlation govern the Constant and Inconstant relations of Single Terms, and of Single Terms only. Quadriterminal Correlation introduces the consideration of Classes.

Rule of Quadriterminal Correlation.

Two terms that are severally the same as, or like, certain other terms, which are definitely related to one another, are themselves in the same way definitely related.

This principle is less self-evident than the former; and even in its special aspects the laws of the correlation of the various fundamental kinds of relations are not all sufficiently certain to be called Axioms.

1st, Likeness—

Qualitative relations of likeness need not be compared in this way. For suppose we wish to find a correlation which implicates the relation A *a* B, such a correlation is indeed given in the expression

$$\overbrace{\text{A } a \text{ B}} = \overbrace{\text{C } a \text{ D}},$$

where A *a* C and B *a* D. But the relation to be established is more clearly implicated in two Triterminal correlations, thus:

$$\text{A } a \text{ C } a \text{ D} \therefore \text{A } a \text{ D},$$
$$\text{A } a \text{ D } a \text{ B} \therefore \text{A } a \text{ B}.$$

If, however, in *any correlation*, two explicit relations be of an indefinite kind, implication is uncertain.

The logical application of the Rule of Quadriterminal Correlation is to relations of Succession and Co-existence.

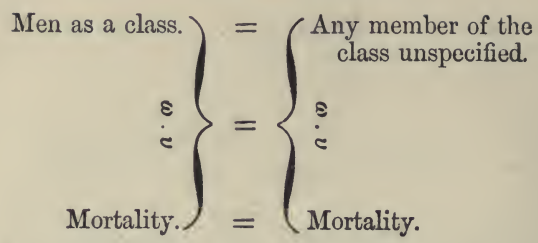
2nd, Co-existence. (Let A = C and B = D.)

$$\overbrace{\text{A } \omega \text{ B}} = \overbrace{\text{C } \omega \text{ D}},$$
$$\text{A } o \text{ B} = \text{C } o \text{ D}.$$

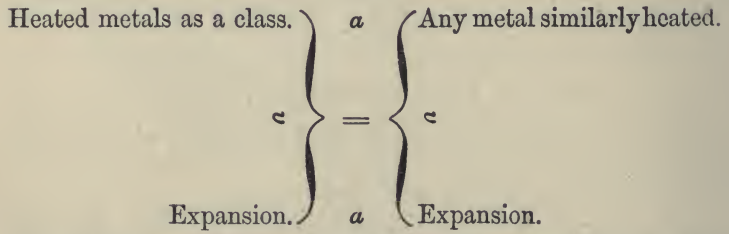
3rd, Succession. (Let A = C and B = D.)

$$\overbrace{\text{A } \upsilon \text{ B}} = \overbrace{\text{C } \upsilon \text{ D}},$$
$$\text{A } \epsilon \text{ B} = \text{C } \epsilon \text{ D},$$

To symbolise these correlations with concrete terms:—



Again—



It will be plain, I think, to everyone who sees these symbols that the principle of the Quadriterminal Correlation of Co-existences is a generalised statement of the doctrine of Natural Kinds; participating, of course, in the shortcomings of that doctrine. And it is equally manifest that the principle of the Quadriterminal Correlation of Successions is no other than the Law of Causation. We have thus arrived in a familiar region.

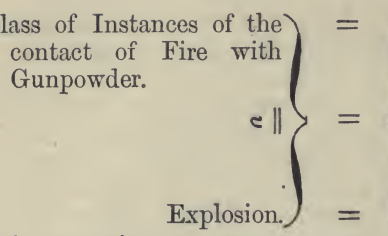
It has already been observed, and the above illustrations show, that Quadriterminal Qualitative Correlations are those involved in the nature of Classes; and, accordingly, the next logical topic is the general nature and definition of Classes; and indeed, roughly speaking, the one remaining subject of Logic is the theory of Classification. But in order to make good this assertion, we must ask permission to extend somewhat the denotation of the word Class. Usually we understand by a Class an assemblage of Compound Terms, agreeing in certain qualities, which cohere chiefly in co-existence; but there seems to be no scientific objection to the recognition of classes of Terms whose points of agreement cohere chiefly in Succession,—classes the members of which should be unities of Cause and Effect, or, as one might call them, Causal Instances. The recognition of such classes agrees well with the psychological doctrine that all thought is classification, and enables us to add that the one aim of Science is systematic classification. It enables us to identify to a great extent Laws and Definitions. For every Law of Causation is the Definition of a Class of Causal Instances; and every Definition of a Natural Kind is a Law of Co-existence. These remarks require some qualifications, but

we will not linger over them just now; nor need the consideration of classes in general and their definition, regarded as a process of generalisation, at present detain us.

A class or law having been generalised, it still remains to test its truth, that is, the constancy of the relations predicated. This is usually called Induction. The Induction of relations of Succession is governed by the Law of Causation; the Induction of relations of Co-existence is aided (much less effectively) by the doctrine of Natural Kinds. And thus the Logic of the text-books connects itself with the more general principles above exhibited.

What now are the nature and use of the Law of Causation and the doctrine of Natural Kinds? Their nature is to be definitions: the Law of Causation is the Definition of Causal Instances in general; the doctrine of Natural Kinds is the definition of Natural Kinds in general. And their use is to sum up the marks of constant relationship: the Law of Causation sums up the marks of constant relations of Succession; the doctrine of Natural Kinds sums up the marks (so far as we are able to discover any) of constant relations of Co-existence. Relations of Succession are certainly, relations of Co-existence are presumptively, constant, when they can be shown to have the marks indicated by these definitions.

The subject of Causation is encumbered with many controversies, and even the statement of the Law of Causation is not unanimously agreed upon. The best expression of it, as it appears to me, is to be gathered from the work of Prof. Bain (*Logic*, B. III., c. iv.). The greatest innovation in the portion of his book devoted to Induction, is, he tells us, "the rendering of Cause by the new doctrine called the Conservation, Persistence, or Correlation of Force" (*Preface*): and this innovation, though strictly, perhaps, of an extra-logical character, is still a very desirable one, because it supplies an additional mark of constancy. Besides the old points of the Law, namely, that every event has a cause, and that the same causes always produce the same effects, we now learn that the quantity of energy embodied in the effect is always equal to the quantity of energy embodied in the cause; a fact which until recently was only faintly and insecurely apprehended. This, it will be observed, is as much as to say, that a relation of constant Succession constantly coincides with a relation of equality. To take a concrete illustration:—



It is convenient to state the Law of Causation in three distinct clauses as above indicated: we are then able, by a process toward which Prof. Bain has given more than a broad hint (*Logic*, B. III., c. 5, § 6), to deduce from it the Experimental Methods, except the Joint Method, which seems to depend partly on Probabilities. Prof. Bain is quite right, therefore, I conceive, in saying, that the Methods of Elimination usually called Inductive are really Deductive.

As for the doctrine of Natural Kinds, there seems to be little or nothing to add to Mill's first account of it. "There are some classes," he says, "the things contained in which differ from other things only in certain particulars which may be numbered, while others differ in more than can be numbered, more even than we need ever expect to know. . . . A hundred generations have not exhausted the common properties of animals or of plants, of sulphur or of phosphorus; nor do we suppose them to be exhaustible, but proceed to new observations and experiments, in the full confidence of discovering new properties which were by no means implied in those we previously knew" (*Logic*, B. I., c. 7, § 4). From this language, which Prof. Bain, if I remember rightly, somewhere pronounces to be "perhaps slightly exaggerated," we gather that the mark of a Natural Kind is, that the members of it agree among themselves, and differ from other terms in a multitude of underived qualities: and since the relations among the qualities of a specimen of a Natural Kind have a high degree of constancy, the mark of a Natural Kind is a mark of constancy; this at least is a fair presumption. But as an instrument of Probation the doctrine of Natural Kinds must always be very inferior to the Law of Causation. And from a certain point of view, this is even fortunate: for had we two equally powerful principles, each applying to a fundamental order of constant relations, we might not know which principle we ought to try to reduce to the other; and so we might be condemned to a perpetual duality of conception. But complete generalisation requires that one should be reduced to the other; and, as it is, we cannot hesitate to endeavour to reduce Co-existence to the effect of Causation.

After the Definition, Probation, and Establishment of Classes, the clue of exposition leads naturally to the relations of Classes among themselves. Classes, like Single Terms, may be immediately or mediately compared. The subject of the immediate comparison of Classes corresponds with that portion of Scholastic Logic which deals with Judgments or Propositions.

Finally, we come to treat of the Mediate Comparison of Classes, and herein of the Syllogism.

In the theory of the Syllogism there seem to be at present two principal moot points, first, as to the presiding axiom of that special Correlation; secondly, as to the number of its Terms. Mill rejected the old Axiom of the Syllogism, which had previously been generally, though not universally, accepted, that is, the famous *Dictum*, and proposed instead Axioms closely resembling the former rival of the *Dictum*, the *Nota notae;* namely—

(1) "Things which co-exist with the same thing, co-exist with one another."

(2) "A thing which co-exists with another thing, with which other thing a third thing does not co-exist, is not co-existent with that third thing" (*Logic*, B. II., c. 2, § 3, 7th ed.).

These axioms we have already recognised as formulating certain modes of Triterminal Correlation. Prof. Bain apparently prefers to fall back upon the *Dictum*, only amending it so as to fence it against the imputation of begging the question. His amended statement of it reads:—"Whatever is true of a whole class (class indefinite, fixed by connotation), is true of whatever thing can be affirmed to come under or belong to the class (as ascertained by connotation)" (*Logic*, B. II., c. 1, § 11).

Both the *Dictum* itself and Mill's Axioms assume that a true Syllogism comprises three terms; the terms regarded in the former case being classes; and in the latter case, attributes. Mr. Spencer, however, contends that a Syllogism comprises four terms (*Psychology*, c. viii.). I must venture to differ slightly from all these authorities.

Mr. Spencer has elsewhere (*Study of Sociology*, c. ix.) described Deductive Logic as "a science of the relations implied in the inclusions, exclusions, and overlappings of classes"; and I think we shall gain by trying to regard the subject steadily from this matter-of-fact point of view, neglecting as much as possible the complications introduced into it by forms of language. Classes may be compared as to their Comprehension, and as to their Extension; or, as it would perhaps be better phrased, as to their Attributions, and as to their Constituencies. For every relation between the Attributions of two or more classes, there must be an equivalent relation between their Constituencies. And from

these different points of view, we may frame Axioms of the Syllogism, which shall be equivalent to one another.

Of the three classes comprised in a Syllogism, that one to which the other two bear explicit relations, is called the Middle: the other two classes may be called the Outers. All Syllogisms which imply an inclusive relation between the Outers, may, if we think of the three classes as sums of Constituents, be brought under the following Axiom:—

(1) A class that includes a second class, that includes a third, itself includes the third, in so far as the third is included in the second.

If we think of the three classes as determined by the common qualities of their constituents, the Axiom will run:

(2) A class whose Attribution is included in the Attribution of a second class, whose Attribution is realised in the Constituents of a third class or in some of them,—includes those Constituents of the third class.

Syllogisms which imply an exclusive relation between the Outers, come under the following Axioms:—

(1) A class that excludes a class, that includes a third class, itself excludes the third class, in so far as the third class is included in the second.

Or, from the attributional point of view:—

(2) If the Constituents of a class do not realise the Attribution of a second class, whose Attribution is realised by the Constituents of a third class (or by some of them)—the Constituents of the first and third classes (or some of them) are not identical.

The Axioms of Constituent Relationship (so to speak) resemble the *Dictum* in its old form; as a moment's consideration will show. We may write the *Dictum* thus:—Whatever is affirmed of a class is affirmed of every part of it. But that which is affirmed of a class is always an Attribute, and every Attribute is the basis of a class. To say 'whatever is affirmed of a class,' then, amounts to saying, 'whatever class includes a class'; and the whole *Dictum* comes to this: A class that includes a class, includes every part of it. And the Axioms of Attributional Relationship (so to speak) bear some resemblance to Mill's Axioms; but still more to the *Dictum* as amended by Prof. Bain.

If now these are the Axioms of the Syllogism, or of the Mediate Comparison of Classes; how many terms does a Syllogism comprise? It lies on the face of the above Axioms that, if by a term be meant an explicit class, a Syllogism comprises three terms, as it has always been supposed to do. But in dealing with classes in this way we resort to an artifice,

an abbreviated mode of expression. If looking beneath the artifice we consider the actual correlation of phenomena, we shall probably perceive that a Syllogism comprises more than three terms, and even more than four.

Let us take an example; how many Terms has this Syllogism?—

Men are mortal;
Greeks are men;
Greeks are mortal.

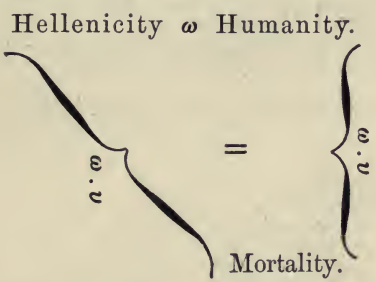
According to the old view, there are three Terms—

Greeks, Men, Mortals:

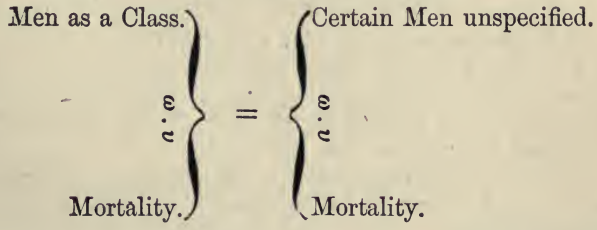
or, in comprehension,

Mortality, Humanity, Hellenicity;

and either way, the three Terms slide into one another, as one shuts up a telescope. According to Mill's Axiom, the correlation might be symbolised thus:—

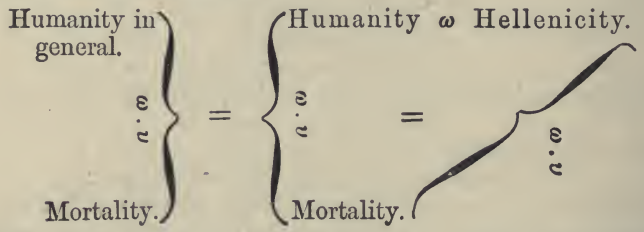


But here we are reminded that Hellenicity does not co-exist with all the Humanity with which Mortality is concomitant. The evidence thus adduced for the mortality of Greeks, is the mortality of Greeks and no more; but much more is intended when it is said that Greeks are mortal, because all men are. So far then I agree with Mr. Spencer that Mill's view is insufficient; but I cannot assent to the view which he appears to hold, that the symbol of Quadriterminal Correlation adequately represents the Correlation formulated in a Syllogism.



This, it seems to me, is all that can fairly be got into a symbol

of Quadriterminal Correlation, and this represents a relation of only two classes (Humanity and Mortality), not of three. The differential nature of Greeks is here omitted; wherein, perhaps, there may be something incompatible with mortality. The correlation formulated in a Syllogism therefore must be represented as Quinqueterminal :—



This Quinqueterminal Correlation is a union of Quadriterminal and Triterminal Correlations. And here let me point out again, that Triterminal Correlation can never give a relation of Classes, but at most the relation of qualities in the members of a single class.

The above Syllogism, then, really comprises the following five terms :—

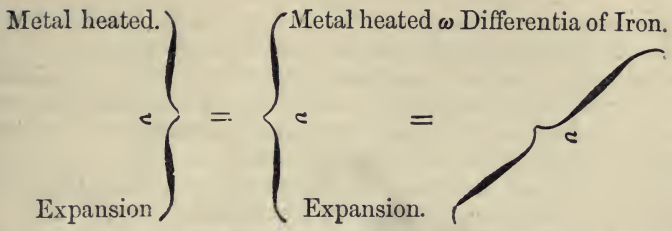
(1) Hellenicity.
(2) Hellenic Humanity.
(3) Mortality of Hellenic Humanity.
(4) Non-Hellenic Humanity.
(5) Mortality of Non-Hellenic Humanity.

Thus we see that in the Axioms of the Syllogism, as above stated, the three classes spoken of are two of them (Humanity and Mortality) divisible each into two classes; and one of the two (Mortality) contains a third portion, namely, Non-Human Mortality, which is not a term of the Syllogism. In fact it may contribute to the right understanding of Logic, as well as to the uniformity of its formulæ, if we write the Axiom of the Syllogism thus :—

Rule of Quinqueterminal Correlation.

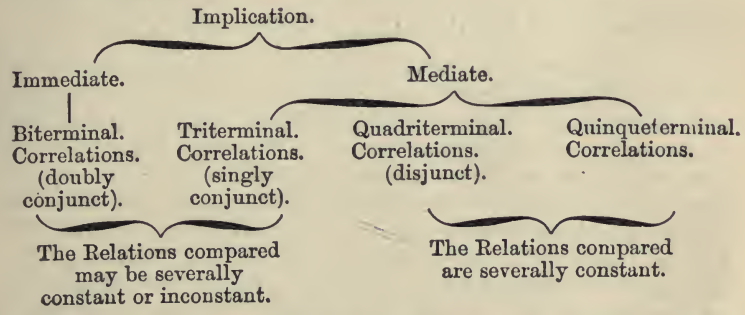
A Term that co-exists with a second Term,—that second Term and a third Term being severally the same as a fourth and fifth Term, which are related to one another by Co-existence or Succession,—is related to the third Term as the fourth to the fifth, and as the second to the third.

For that the rule applies to classes of Causal Instances, as well as to Kinds, will be apparent to anyone who contemplates this symbol :—



And that is to say; Expanded bodies include heated metals, which include heated iron.

We have now surveyed four modes of Implication,—four modes of Correlation in which relations that are explicit imply and prove relations that are not explicit; and each of these genera includes more than one species. It did not fall within our sphere to consider other than Qualitative Correlations; but had we taken account of the Quantitative order, it would only have added two or three formally different kinds; the chief being Proportion under Quadriterminal Correlation. Perhaps a Table of the modes of Implication may throw back some light on preceding pages.



The first three modes appear to be elementary and irreducible: the fourth mode is compounded of the second and third; but cannot, I think, be reduced to them without loss. All other compound modes, so far as I have examined them, are easily reducible, and do not need separate discussion.

Whilst writing these pages, I have generally tried, not always successfully, to avoid expressions which might draw attention to that aspect of Logic which has won for it the name of the Science of Proof. Let us now briefly inquire what is the relation of Logic to Probation. Any Law gains in certainty by being subsumed under a higher and more general Law: it is demonstrated when it is subsumed under an Axiom. Any Science which contains an Axiom of its own, or by accumulated

empirical evidence raises one of its Laws to the authority of an Axiom, becomes to that extent a Science of Proof in all less general cases to which the principle applies. Logic and Mathematics have this character pre-eminently, because they are so rich in Axioms and in deductions from Axioms which are of axiomatic certainty. In Logic, the different modes of Correlation, the special Axioms, the Experimental Methods, and the Moods of Syllogism, all form an apparatus of Proof. And it is true that a good deal of it was developed for that purpose. But it needed not to have been so: all these formulæ might have been worked out merely for the sake of developing the Science; and they would still have been equally efficient as a means of Proof. Thus, to be a Science of Proof is a proprium of Logic, and no part of its essence; and therefore, strictly speaking, the fact should not be included in the definition of Logic. I hope it is needless to add that this remark is intended only to clear up the nature of the Science, and not at all to deprecate the development of Applied Logic.

CARVETH READ.

V.—ENGLISH THOUGHT IN THE 18TH CENTURY.*

BESIDES the remarkable work whose name is placed at the head of this article, two other important contributions have recently been made to the history of philosophical thinking in England. Professor Kuno Fischer has taken his old monograph on Francis Bacon (known to English readers since 1857 in Mr. Oxenford's translation), and so recast and enlarged it as to give not only a more adequate representation of Bacon as a man and thinker, but an account of the development of the 'Philosophy of Experience' as far as Hume, no longer quite too meagre to stand as a side-piece to that history of Modern Philosophy which he has traced on a great scale from Descartes through Spinoza and Leibnitz to Kant and his successors.† The book in its new form appeared in 1875, and in the same year, by a curious coincidence, the late M. de Rémusat, who had before followed close on Fischer with an independent monograph on Bacon, came forward with a *History of Philosophy in England from Bacon to Locke*.‡ There is evidence of genuine research in this work,

* *History of English Thought in the Eighteenth Century*, by LESLIE STEPHEN. 2 vols. London: Smith, Elder, & Co. 1876.

† *Francis Bacon und seine Nachfolger.* Entwicklungsgeschichte der Erfahrungsphilosophie. Von KUNO FISCHER. 2te völlig umgearbeitete Auflage. Leipzig: Brockhaus, 1875. The greater work, *Geschichte der neuern Philosophie*, has thus far been brought down to Schelling.

‡ *Histoire de la Philosophie en Angleterre depuis Bacon jusqu' à Locke*, par CHARLES DE RÉMUSAT. 2 Tomes. Paris: Didier et Cie., 1875.

especially among the less-known writers of the 17th century, which should have drawn attention to it in England before this time. On the present occasion it is simply mentioned, because of the period which it seeks to compass. Where M. de Rémusat leaves off, there Mr. Leslie Stephen in his brilliant volumes may be said to take up the tale; and, though there could not well be a greater difference in the spirit and scope of the two works, there is much in the later history that may be better understood for the careful record of the earlier time which we owe to a foreign hand.

Much as he has to say about philosophers and their work, great and small, Mr. Stephen has not written or professed to write a History of Philosophy in the stricter sense. His aim and even his method of constructing the book are disclosed with the utmost candour. It was his first object to trace systematically and in full detail the course of Religious Thought from 1688 to 1750, the period defined and rapidly sketched in Mr. Pattison's well-known essay. Lechler, more than thirty years ago, gave an adequate account of the Deists proper, but did not concern himself, save incidentally, with their orthodox opponents, though these (as Mr. Pattison sought particularly to impress) betrayed the same general tendencies of thought. It accordingly seemed necessary to Mr. Stephen to trace back the common theological tendencies of the age to the philosophical ideas then prevalent; and upon this there was an interest in showing how the principles accepted in philosophy and theology were applied to practice in the sphere of moral and political thought, or, again, reflected in the imaginative literature of the time. As thus explained, the scope of the book is of course very different from that of a technical History of Philosophy, and it is in fact so comprehensive that almost everything appears to be included in the author's survey of thought or intellectual activity in the century, except the work of special science.

Is he justified in giving to the word Thought at once such an extension and such a restriction, as to include in the same treatise with thinkers like Locke and Hume and Butler, poets and novelists and preachers like Burns and Fielding and Wesley, to the exclusion of scientific inquirers like Newton or Black or Hunter? Mr. Stephen, though himself doubting whether his title is not too ambitious, evidently is guided by some definite principle in determining the scope and limits of his work; and perhaps it may be gathered, in default of more express statement, from the beginning of his last chapter where he passes, after dealing successively with philosophers, theologians, moralists and publicists, to the delineation of what he

calls the 'Characteristics' of the age. The literature of a people, we are told, may be disposed under three heads: (1) historical, which records facts and summarises or amplifies existing knowledge; (2) speculative, which discusses the truth of the theories binding knowledge together; and (3) imaginative, which utters the emotions generated by the conditions in which men are or believe themselves to be placed. Here, Science is either excluded from Literature altogether as a technical pursuit, or it is included in the wider sense of History, which regards nature in all its varied aspects as well as man. In either case, since History itself is not brought within Mr. Stephen's scheme, Science as the sum of existing positive knowledge about the world is naturally excluded. But besides the properly philosophic thought which seeks rationally to co-ordinate the variety of human knowledge with a view more or less direct to practical conduct, it is natural to consider the imaginative synthesis, since by this (as he urges) is determined the action of the majority of mankind, and farther (as he might have added) because the philosophical synthesis, not being in the same way verifiable as the generalisations of positive science, must always contain an element of subjective sentiment allying it to imaginative literature. If some such view was present to Mr. Stephen's mind, there is not wanting a good reason for the limitation of subjects in his book; while, on the other hand, his readers may be glad that he has so far widened his scheme as to give them, in his well and often brilliantly written pages, a varied picture of national thought and feeling alive with human interest, instead of the abstract and one-featured record, apt to be misleading, which History of Philosophy commonly is. Nor in this case at least is good literary effect procured at the expense of careful research. The one objection, perhaps, in point of form, that can be brought against the book as a History of Thought, is the unequal prominence given to the phases of religious as compared with philosophical opinion,—if it is not too ungracious to say so, when Mr. Stephen has implied in his ingenuous preface that, but for his interest in the religious movements, we might not have had from him a view of the century at all.

In Mr. Stephen's view one figure stands forward at the beginning, and re-appears towering above all others in every scene of the history. Whether it be the philosophy, or the theology, or the morals, or the politics of the century that is under review, the decisive word, representing the last outcome of what was in men's minds, is always uttered by Hume. Halfway through the century dogmatic speculation about the supernatural ceased of a sudden: Hume had spoken, and ever after-

wards those who were concerned to save the conclusions of metaphysical philosophy had no choice but to try for them by another road. About the same time the hot theological warfare that had filled the world with clamour for two generations died away: Hume had sprung a mine that sent into the air both deists who were not Christians, and Christian apologists who were but deists. It took fifty years from the time of Locke before the utilitarian ethics, so congenial to the national mind, got a definite philosophical expression—from Hume. Hume left nothing unsaid which the acutest intellect could say about political philosophy so long as men were supposed independent atoms, and there was no thought of organic evolution or serious consideration of historical development. And if the historical spirit began to awake in the second half of the century, in preparation for the work of the age to come, even in this forward movement Hume too had part. When we remember, besides, who it was that almost disowned the rugged work of his strong youth, and desired to be judged by the fastidiously polished but less searching essays of his prime, we see with what reason Mr. Stephen may take Hume as quite the representative thinker of a century quick with intellectual activity, only not the deepest.

Should we try, farther, to gain a comprehensive view of the whole course of thought in the century, as it presents itself to Mr. Stephen, the spectacle resolves itself into a number of scenes which, described in very general terms, are these: (1) A movement of determined philosophical criticism lasting fifty years or more from Locke to Hume, destructive of the whole edifice of speculative metaphysic reared by Descartes and his followers in the 17th century, but neither itself constructive nor exciting (in England), while the century lasted, any philosophical construction of real and permanent importance. (2) A rationalistic movement in religion, prepared in the 17th century, and following naturally from the principles of Protestantism, at first promoted by the influence of the current philosophical ideas, yet in the end suppressed by the advance of philosophical opinion, or changed into a historical investigation of the external evidences for a supernatural revelation. (3) A movement to find a rational ground for moral action, by way of supplement to the weakened force of the theological sanction, or as a substitute for it when altogether rejected. (4) A corresponding movement, less earnestly maintained, to explain on rational principles the social and political relations subsisting between men, upon the decay of the notion of supernatural ordinance. (5) Within this last movement, a special determination towards economic inquiry. (6) Finally, a varied literary movement, at first reflecting very faithfully the dominant philosophical

and religious conceptions, but afterwards, as these became effete without begetting others, opening out into new lines of sentiment which anticipated the rational thought and inquiry of the coming time.

It is not possible, in short compass, to do anything like justice to the working out of so comprehensive a scheme as this of Mr. Stephen's, but as the philosophical and ethical movements, which are of special interest to the readers of this journal, happen to be rather compendiously treated, we may look a little more closely at his view of these.

The dogmatic philosophy which the 'English Criticism' broke down was the metaphysical system inaugurated by Descartes, and, according to Mr. Stephen (though the point is never very clearly established and is rather doubtful), the same system, with its abstract assumptions and deductive method, dominated the minds of the chief English rationalists in religion, whether orthodox or deistical. He therefore begins with a short account of the Cartesian philosophy. He makes no reference to Bacon, and but incidental reference to Hobbes, the great English thinkers of the 17th century, and this may appear strange; yet there is reason for the omission. Bacon and Hobbes were, each in his generation and in his own way, true representatives of the English spirit in philosophy, but it was not till Locke abandoned any such attempt as either of theirs to construct an objective system of universal knowledge, and threw himself upon a critical investigation of the mind's powers, that England joined properly in the modern philosophical movement of Europe. It is true that Descartes himself, the great leader of the movement, had sought, from his philosophical starting-point, to work out also an explanation of the concrete phenomena of nature. Before the end of the 17th century, however, the attempt was practically discredited by the advance of positive physical science from the time of Galileo; and Locke showed a true appreciation of the *Zeitgeist*, when, in an age that produced "such masters as the great Huygenius and the incomparable Mr. Newton, with some other of that strain," he thought it "ambition enough to be employed as an under-labourer in clearing the ground a little, and removing some of the rubbish that lies in the way to knowledge". In words of too great modesty, we have here from Locke himself a statement of the true work of philosophy in modern times, and we see how in him English philosophical thought comes into relation with the general European movement which, however, diverted by this or that speculative genius, has always been directed to the fundamental inquiry as to the ground and limits of knowledge. In particular, the Cartesian philosophy was an attempt to found certainty of

knowledge upon the immediate deliverances of adult consciousness, without consideration of the sources and development of knowledge, and in respect of method sought to proceed by way of rational deduction in constructing a fabric of metaphysical doctrine. This was exactly what Locke set himself from the very foundation to oppose. That the question of the validity and limits of knowledge must depend upon an inquiry into its origin and development was his deepest philosophical conviction; and though, as Mr. Stephen well points out, he and his successors till Hume were really at one with the Cartesians in restricting the inquiry to the consciousness of the individual as known by introspection, and had not a different conception of the meaning of real existence, yet the difference of method could not but lead to very different conclusions. How far Locke himself applied the critical solvent to the system of dogmatic metaphysics and how, with diverse aims, it was farther applied by Berkeley and Hume, is clearly and vigorously set forth in general lines by Mr. Stephen. The result was what we know—that rational speculation by itself, apart from experience, was stripped of all authority.

Mr. Stephen, having always more than an antiquarian interest in his subject—being, in fact, for an historian, too much rather than too little apt to sit in judgment, as well as set forth and explain—is especially careful to consider the attitude of Hume, so as to find a way out of the deadlock to which the great doubter seemed to bring all human inquiry, while shattering the system of speculative metaphysic. He finds that Hume's point of view was essentially artificial; that he did not think of the mind of the individual in its true relation to the social organism—as moulded by influences quite different from the disjointed and haphazard sense-impressions out of which he supposed the whole fabric of intellectual consciousness had ever anew to be reared by and for each person; that he had no historical sense, much less a glimmer of that scientific notion of the evolution of all organic life which since then has so profoundly affected the work of philosophical interpretation. The criticism, though not very elaborate, is, as far as it goes, admirably conducted, and is an attempt of a kind that has been too seldom made by sympathisers with Hume's philosophical spirit to maintain it intelligently in the altered state of human knowledge since his time. As such, Mr. Stephen's judgment deserves the attention of those champions of a different philosophy, who seem to think that a textual sifting of the writings of Locke and Hume, revealing manifold inconsistencies and defects of thought, is the most effective way of dealing a death-blow to the cause of Experientialism at the present day. But—in exhibiting Hume as the hero of a philoso-

phic movement which effectually accomplished a work of destruction yet did it from principles which could lead to no constructive result, so that only after a long lapse of years and by means of varied research in history and special science was there gradually formed, in these latter days, something like an adequate experiential philosophy—Mr. Stephen has not given sufficient prominence to one very marked phase of English intellectual inquiry in the 18th century, and has thus been led to do some injustice, if not to Hume's predecessors, at least to his contemporaries and successors within the century. Psychology, if it is viewed as science, has yet an exceptional standing in relation to philosophy, and cannot be neglected in a history of philosophic thought in England, where it has been so steadily cultivated without being too carefully discriminated from philosophy proper. Now Mr. Stephen, in his exposition, nowhere gives much attention to the progress of psychology, though this was very remarkable within the century; and hence he fails to assign due importance to one in particular of Hume's contemporaries—David Hartley. His somewhat disparaging estimate of Reid, in the last generation of the century, might also have been relieved by an allowance of serious purpose as a psychological inquirer to one who himself achieved something, and moved others to achieve more.

It should be well understood that Locke's work, the beginning of all that followed in England, had two sides which, however related to one another, may be clearly distinguished, and were in fact the occasion of two different lines of development in English thought. Essentially a philosopher in his concern for the general problem of knowledge, he sought for the solution of it in a psychological spirit, and he was the first who expressly took up this position. He differed from his predecessors, not only in his philosophical conclusion, but from all of them—even his own countryman Hobbes—in putting forward the psychological question of the growth of knowledge as the first to be answered. And however undeveloped his own psychology was, it soon appeared from what followed how effectively he had given an impulse to new inquiry. Berkeley did not only philosophise after the manner of Locke, showing, with the special theological purpose that moved him, how all knowledge was based on experience, and that no experience could be assigned portending an absolute existence of matter: he began in his *New Theory of Vision* the work of special psychological investigation after the manner of positive science. Even Hume, though his lasting importance consists in his properly philosophical activity, set out at the beginning with the distinctly psychological aim of founding a "science of man" on "experience and observation" like

"the other sciences," or, as he also expressed it, of making an "application of experimental philosophy to moral subjects," as it had already been made to physical nature. Now what Hume thus professed to do, but diverging into the critico-philosophical vein left for the most part undone, this Hartley expressly essayed and carried through, however he may have also sought to combine therewith an extraneous (ethical and religious) purpose; and he did it as following out the work of Locke in the spirit of Newton. If Locke, Berkeley and Hume are a series representing the natural development of English philosophical thinking at the time, Locke, Berkeley and Hartley are another series representing a movement of psychological inquiry then begun and destined to become ever broader and deeper. And the second series is certainly not the least important when we look beyond the century to what followed. The most characteristic English work of the later time has been done in the track of Hartley rather than of Hume. This is true even of the work, not psychological, of the younger Mill, who, though he presented as a logical theory of positive science a doctrine allied to Hume's negative philosophy, did not borrow it from Hume, but rather worked it out independently as the proper philosophical complement to the psychology of Hartley and his father, Hartley's close adherent. It is still more true of the psychological work of the so-called Associationists, James Mill and his successors, whether of the straiter sect of individualists, or of the broader persuasion inspired with the doctrine of evolution. The note of English psychology thus far has been the study of mental phenomena in relation with physiological conditions (wherever these can be made manifest), and this without express metaphysical assumption, or even to the exclusion of metaphysical assumption, as in the positive sciences generally, whose advance has depended on their being thus pursued. To Hartley, more than any other, it is due that the science of mind has been brought (on the side on which it can be brought) into relation with physiology, and it is too little recognised with what extraordinary insight he anticipated some of the most important results now established in physiological psychology; while, if it cannot be equally said that he steered clear of metaphysical assumptions at the beginning, it may be affirmed that his positive doctrine of mental acquisition is developed without the least reference to them. To speak of him, as Mr. Stephen does, as a materialist, because he takes account of physical conditions throughout, is no more fitting than it would be to use the same term of any scientific psychologist of the present time; or, if he is so described because he supposed the consciousness of the individual to result wholly from a grouping of incidental experiences, the term is no more appli-

cable to him than to Locke. Curiously incoherent as are the parts of his general philosophic system (if philosophic it can be called), his psychology stands as one of the most remarkable intellectual productions of the 18th century, destined later, if not at the time, to have the deepest influence upon 'English Thought'.

Passing now to the Moralists, we find Mr. Stephen's exposition guided by one main conception. So long, he maintains, as theology was a vital belief in the world and preserved a sufficient infusion of the anthropomorphic element, it afforded a complete and satisfactory answer to the common questions of ethics—what is meant by 'ought' and 'goodness' and what are the motives that induce us to be good. Nor did the inquiry into the nature of our moral sentiments naturally suggest itself; the only moral inquiry likely to flourish was casuistry, or the discussion as to the details of that legal code whose origin and sanctions were abundantly clear. But wider speculations as to morality inevitably occurred as soon as the vision of God became faint. It was growing faint in the 17th century when Hobbes could venture to put the bold questions he did. It had become so faint in the 18th century that men stood in face of a strictly practical issue: How was morality to survive theology? Hence the outburst of ethical inquiry by such a multitude of thinkers. Mr. Stephen ranges them under three main heads: (1) the Intellectual School of Clark, Wollaston and Price; (2) the Common Sense School of Butler, Hutcheson and Reid; (3) the Utilitarian School, founding on Locke and comprehending such different representatives as Hume, Waterland, Tucker and Paley. Shaftesbury and Mandeville are at the same time treated incidentally at considerable length, as representing extreme phases of the recoil from the abstract metaphysics of the intellectualists; and a separate section is farther given to Hartley and Adam Smith, because of their different attempts to trace the psychological genesis or derivation of the moral faculty in man.

In these ethical sections, Mr. Stephen never loses his hold upon the reader's attention, and not seldom he appears, perhaps, at his best both as a writer and as a philosophical critic. Especially when he has to deal with Hume, the exposition becomes masterly, and there is a very striking argument against looking for the root of morality in such an individualistic psychology as that beyond which all Hume's acuteness never carried him. Mr. Stephen's way of putting the alternative position is to say that the ethical problem cannot be solved except on the basis of a scientific sociology, but, whether called sociology or a truer psychology that refuses to look at the mental development of the individual apart from the social medium into which he is born, the basis is that which must be chosen by any clear-

sighted experientialist at the present day. After Hume, the thinker who here as a moralist, or elsewhere as a philosophic theologian, receives most worthy appreciation from Mr. Stephen, is Butler. The serious, not to say sombre, mood of the man, oppressed with a sense of the dire reality of existence in an optimistic age, strikes a sympathetic chord in the mind of his critic, and evokes a response whose strength is hardly weakened by their speculative difference of opinion as to the supernatural. Of Mr. Stephen's other estimates, that of Samuel Clarke is among the most successful. Like Butler, Clarke falls to be treated at two places, in his different characters of theologian and moralist, and both must be consulted for the judgment of him in either capacity. Mr. Stephen compares him, by a very happy inspiration, to another famous Cambridge doctor, better known in these days but not more prominent as an intellectual figure than Clarke was in his time—namely, Whewell. Clarke's distinction, while bred under English conditions and holding in great part by native authorities in science and philosophy, was that he had drunk also at foreign springs, and knew at once how far it became an English theologian to go with outlandish speculative philosophers and when it was necessary to stop or even to lift up his voice against their wayward aberrations. Mr. Stephen rather overstates his dependence on Descartes, or overlooks his dependence on Newton and his relation to Locke. There is also some want of precision in the passage referred to (Vol. I., p. 119), where Leibnitz is specially named as the thinker to whom Clarke stood "in the same sort of relation which Whewell occupied to modern German philosophers" (meaning Kant). But, all the same, the comparison remains a very felicitous one, and the remark which follows, that "in softening the foreign doctrines to suit English tastes he succeeds in enervating them without making them substantially more reasonable," while throwing a real light upon Clarke, is a good instance of Mr. Stephen's power, displayed throughout his volumes, of dropping observations that strike home in regard to thinkers not so far removed as those of the 18th century.

However, as a history of ethical speculation in England at the time, Mr. Stephen's review of the moralists strikes one as defective in several ways. No explanation is offered of the remarkable fact that the philosophical activity of the English mind was directed so predominantly into the line of ethical speculation, not slackening here even when about the middle of the century intellectual speculation was struck with sudden collapse. The review is also too abruptly ended and is more abruptly begun; in particular, no attempt being made at the beginning to show the relation in which the different ethical efforts of the 18th

century stood to earlier English efforts in the 17th. Again, by classing together under the one head of 'Utilitarians,' moralists so different as Hume on the one hand, and Locke, Waterland, Tucker and Paley on the other, the common prejudice against Utilitarianism, as if it were a system of selfishness, tends to be confirmed. And the principle itself which guides the whole exposition—that the philosophical inquiry into the grounds of right action was determined by the weakening of the religious sanction—seems to come short of expressing the facts, both first and last, or even is rather obviously at variance with some of them.

The strong point of the English mind in theoretical philosophy, as Mr. Stephen remarks early in his work, is its vigorous grasp of facts, its weakness is its comparative indifference to logical symmetry. Not less characteristic has been the English habit of thinking always with some view to practice, and making the theory of practice its chief philosophical concern. Far back in the days of the Middle Age, when the Church drew to itself the intellectual service of all the western peoples, and there was but one philosophy—Christian and European, the national tendency above all things to moralise already betrayed itself in English Schoolmen like John of Salisbury, and Roger Bacon anticipated that conception of knowledge as subservient to human practice which another Bacon is supposed to have first disclosed to the world.* The later utterance by Francis Bacon, coinciding with the beginning of the modern era of philosophical thought when the nations each went their own way, was indeed so peculiarly impressive that his countrymen are not unnaturally thought to have been ever since bound by its spell; but it is nearer the truth to see in the great preacher of Induction only the representative for the time of the national habit of thinking. Hobbes, who owed nothing to Bacon and took nothing from him, was not less practically minded in his deductive speculations, having never absent from his view the regulation of human conduct in society even when dealing with the most general aspects of knowledge. Nor was Locke, who owed no more to Hobbes than Hobbes to Bacon, but with sturdy originality worked out his inquiry into human knowledge as an English counterpiece to the Cartesian philosophy reigning abroad, a whit behind either in his recognition of morality as "the proper science and business of mankind in general," while the useful arts should be the concern of special experts in default of a

* The relation of the later to the earlier Bacon is shortly but effectively indicated in the Introductory Lecture delivered by Prof. Adamson at Owens College in October last: *Roger Bacon; The Philosophy of Science in the Middle Ages.* (Manchester: Cornish, 1876.)

"scientifical knowledge" of nature not to be attained by human faculties. Berkeley, again, speculated with a moral or religious, at all events a directly practical, object in view; and Hume's moral philosophy remains the most serious, as by himself it was the most cherished, of his achievements. What a moralising vein pervades the general literature of our country, to the sacrifice of artistic aim, has not seldom been remarked, though it has never been more forcibly exhibited than by Mr. Stephen himself in describing the literary activity proper of the period. It is intelligible, then, or at least it is not surprising, how varied and constantly renewed should have been the attempts by English thinkers of the 18th century, smaller as well as greater, to determine the reason and aims of human conduct, and how they should have been continued at a time when abstract metaphysical inquiry became paralysed; more especially since the psychological impulse, which has told so markedly on the development of ethical thought in England, went on (as we have seen) steadily gathering strength, unaffected if not re-inforced by the circumstances of the philosophical dead-block.

With such a determination of the English mind towards practical philosophy, even as exhibited in the 18th century only, it is in any case hardly to be expected that then for the first time ethical inquiry should all of a sudden begin; and yet this, it must be said, is the rather misleading impression given by Mr. Stephen's chapter on the moralists. It is true he alludes at starting to Hobbes's bold speculations on morality launched in the middle of the previous century, but he does not suggest, as in the interest of historical understanding he might even have impressed, the fact that some of the most characteristic ethical positions of the later time were already taken up at the earlier. For example, the so-called Intellectual School of Clarke, Wollaston, and Price (of which, by the way, the shortcomings are much more effectively exposed than its serious scientific import is acknowledged) is treated without any reference to Cudworth; though Cudworth, besides enunciating all the most distinctive doctrines of the school—as Price, by borrowing wholesale from him rather than from Clarke, allows—was the author even of the "magniloquent trick of language about the eternal and immutable nature of things" which Mr. Stephen declares to be the sole relic that survived its decay. It is also a real omission, in tracing the origin of Utilitarianism, whether in its stricter sense or in the looser sense of Hedonism adopted in the heading of Mr. Stephen's section, to make no reference to Cumberland, who has been not untruly described as the first philosophical moralist that appeared in this country, and who certainly did (to whatever dreary extent) reason about the grounds of human conduct in

the spirit considered most essentially English. If a period is to be understood historically, it must not be taken too strictly, at least *a parte præ;* and unfortunately it is just in dealing with the moral philosophers that Mr. Stephen confines himself with exceptional rigour to his century, thereby not a little reducing the value of the very part of his work that otherwise comes nearest to fulfilling the conditions of a history of philosophical thought.

It is impossible also not to regret the confusion caused by classing under the one head of Utilitarianism all those moralists who in any way make the rule of right dependent on the promotion of happiness. Of course, this use of the term may be justified, because, in strictness, it applies equally to the selfish pursuit of one's own happiness and to the conscious regard for the good of all; but nobody knows better than Mr. Stephen, or indeed has better set forth on the whole, the distinctive character of that ethical view which was lifted at once into importance by the genius of Hume, and has later become so identified with the English name in practical philosophy. Neither in a theoretic nor in any other point of view is justice done to Hume's serious attempt to find a rational explanation of morality when he is ranked with theological moralists like Waterland, who solve all difficulties by direct resort to the supernatural sanction, or even with Locke, who in a more round-about and uncertain way has recourse to the same constraining authority. How greatly concerned Hume was to prove the natural existence in man of altruistic sentiments is so clearly apprehended and plainly set forth by Mr. Stephen, that from him at least we have a right to expect no such indiscriminate classing as may tend to obscure the most fundamental distinction. Not only, however, is the loose classification made, but, in his eagerness to show how much better the system of altruistic (but dependent) morality can now be based, we find Mr. Stephen carried to the length of committing an injustice. When he says that "later writers of the Benthamist school generally show a reluctance, as did Bentham himself, to admit the possibility of a perfectly disinterested emotion" (ii. p. 105), he says what it would be difficult to make good of any later utilitarian of philosophical standing. And speaking of Bentham, it is surely by an arbitrary exclusion that the author of the *Principles of Morals and Legislation* (written before the year 1780) is referred to the present century. Though there is truth in the remark that "the history of Utilitarianism, as an active force" belongs to the 19th century, at least as regards civil legislation, yet nothing is more characteristic of the history of English thought in the 18th century, than that in the last generation of it there should have been formulated those prin-

ciples of public and private right of which so revolutionary an application was destined in time to be made. Nor if it should be granted that Bentham's utilitarianism, as an attempt to base morality upon observation, reduces it "to a mere chaos of empirical doctrines," as much as Hume's, is this anything but a reason for associating it with the work of the 18th century. There would be more reason, indeed, from Mr. Stephen's point of view, in referring even the younger Mill to the 18th, than in taking the opposite course with his great master in politics and morals.

A few remarks, in conclusion, seemed called for on that conception which, if it can hardly be said in fact to guide, yet stands in the front of Mr. Stephen's treatment of the moral philosophers. Were the manifold ethical theories that sprang up in the century all so many attempts to find a secular rule of human conduct in default of the decayed or decaying influence of theological precepts? The notion undoubtedly fits some of the facts and involves a general truth. Ethics, so prominent a department of the ancient philosophical systems, was of all the more obvious subjects of rational speculation the least cultivated when, after the long centuries of faith without thinking, the Christian doctors of the Middle Age began to think about their faith. Not that the practical rule of life was made a matter of no concern; but it had been provided so expressly by supernatural authority that there could be no question except as to how it should be applied in the varying circumstances of the human lot. Hence all such reasoning as there was about human conduct assumed the form and the name of Moral Theology, while the complementary doctrine of Natural Theology was but a part, however large, of the theoretic philosophy of the time. Theology stood for the whole of practical philosophy; and thus in no direction—not even that of positive physical science—could the modern spirit, when it awoke, break away more decisively from the bondage of Scholasticism than by entering on the path of ethical inquiry. Every great ethical system that has since been given to the world has truly been an attempt to find a strictly rational law of conduct. Such were the systems of Spinoza and Kant, and such also was the system of Hume. Such even, as Mr. Stephen might fairly contend, was the character of some of the minor ethical doctrines which he passes under review. But hardly will his readers carry away the impression that the English moralists of the 18th century generally had reached the stage of philosophical detachment from the old theological basis. Had the "vision of God" become faint in Butler—Butler to whom conscience was truly the voice of a supernatural judge, and whose psychology was the controversial buttress of his ethics rather than its philoso-

phical foundation? Was Clarke the less a Schoolman in spirit because he lived in the days of Newton, and affected the form of scientific demonstration? Or was Paley satisfied that the truth should be told without the fear of hell and the hope of heaven? Mr. Stephen must drop out of view all but two or three of his English moralists before he can see in the 18th century the clear beginnings of that determined search for a naturalistic ground of ethics which is being pursued in the 19th, but which not even now is admitted without protest and resistance.

The truth, perhaps, is that Mr. Stephen, who is always as much a critic as an historian and, what is more, a critical thinker anxiously concerned about the speculative issues of his own time, has been somewhat over-ready to see the present in the past, and to reckon with the long-departed as if they were adversaries or allies. This fault, if it is one, he can best expiate by writing another work, that not only will give better scope for the exercise of his special faculty but will be the more valuable according as he gives it free play and does not scruple, while tracing the currents of opinion, to direct them to the utmost of his power. Let him give us that critical History of English Thought in the Nineteenth Century which the very defects as well as the excellences of his present volumes mark him out as signally able to essay.

EDITOR.

VI.—PHILOSOPHY IN FRANCE.*

To understand the present state of French philosophy, it is necessary to look back over thirty years. At that time Eclecticism, after having passed through a militant stage, was reigning supreme. Its chief advocate, Victor Cousin, minister of Public Instruction and peer of France, with the assistance of several eminent public men, such as Guizot, Villemain, and Royer Collard, had succeeded in founding in France an *official* philosophy, a philosophy, that is to say, which the State guaranteed, of which it determined the spirit and the programme, which was the only one in its pay, and was

* The series of articles on the state of Philosophical Study at the various academic centres, continued from the first No. of MIND, may now be said to have exhausted the interest of the subject so far as this country is concerned; and there is here submitted the first of a second series of (more comprehensive) articles dealing with the present state of Philosophy in foreign countries, written in each case by some prominent native authority. It is necessary, however, on thus passing abroad, to note one formal omission in the past series. The Queen's University of Ireland gives considerable prominence to Philosophy in its Arts examinations, and the three associated Colleges of Belfast, Cork, and Galway (attend-

taught by it in the Faculties, the *Lycées* and the Colleges. Undisputed master of a legion of disciples, Cousin watched over and strictly maintained a philosophical orthodoxy. There is no need, after what Mr. Lewes has said of it in his *History of Philosophy*, to speak at length of Eclecticism. It was a doctrine without originality, and standing absolutely aloof from the discoveries of science. Its fundamental principle was this: In philosophy, everything has been said; the age of systems is past; all we have to do is to question history, to take what is true out of each system, and from all these elements to form a *perennis philosophia*. Without letting himself be stopped by the fundamental objection that, in order to choose, a criterion must first be determined, Victor Cousin fixed on Spiritualism, which seemed to him more congenial than any other doctrine to the political opinions and religious beliefs of the period and to the French mind. He leaned, above all, on Descartes, that he might give a patriotic and national character to his philosophy. The foundation was said to be psychology, disclosing everything to man by mere reflection—his nature, the laws of his mind, morals, æsthetics, the nature and attributes of God, "who reveals himself to our consciousness by reason". The psychology of Eclecticism was, however, very superficial; it was only a literary expansion of the truths of common sense; the few facts to be met with in it were borrowed from the Scotch. Besides psychology, the eclectic philosophy comprehended logic (though this was always much neglected, from not lending itself to oratorical exercises), morals and æsthetics (both of an elevated cast, though vague in character), and lastly, natural theology or "theodicy". This last was Cousin's masterpiece. Without troubling himself about the radical change that Kant's *Kritik* had wrought, he borrowed his theology from Plato, Descartes, Bossuet and Fénélon (the two last serving as guarantees to the clergy and the faithful). The result might be shortly described as "Christianity without miracles".

Prudent, circumspect, and fearful of all excesses, Eclecticism had always a single criterion—common sense, a single aim—to maintain itself in power by a succession of skilful manœuvres, especially in regard to the clergy, who never accepted it, and

ance at some one of which is necessary for the University degrees) have each a professor of the subject. Founded as late as 1849, in order to unite students of all confessions in a country rent by religious differences, the Queen's University has not yet much of a history. Chiefly memorable here is the attempt made by Mr. Gladstone's government in 1873 to exclude from the list of examination-subjects Philosophy and Modern History in addition to Theology (which had never been included). The attempt failed, but it will be well understood what obstacles there are in the way of a free development of philosophical study in the University when it could have been made.—EDITOR.

were never duped by its servility. The principal achievement of the school was in the department of history; it produced a great number of historical works, many of them valuable and some excellent. In his palmy days, Cousin had about him a sort of staff, actively engaged in the training and inspection of professors of philosophy, and in watching over the execution of the programmes. Obedient to one impulse, and participating in the force which, thanks to centralisation, the State possesses in France, the professorial body was a real power, and formed a kind of lay clergy. Outside, there were but two classes dissenting from it: the Catholics who accused Cousin and his disciples of pantheism; and the socialist, communist, and humanitarian schools, who were never weary of denouncing the bizarre invention of a State-philosophy.

The Revolution of 1848 struck a fatal blow at Eclecticism. The disciples of St. Simon, Fourier, and Proudhon were in power for a moment. A bold and implacable clerical reaction followed; later came the *coup d'état* and the Empire. Henceforth (from about 1850), the degradation of philosophy was complete. In public instruction the very name was suppressed and replaced by that of "Logic". Inoffensive and trivial commonplaces were alone in vogue; all great questions were left untouched. Teaching was entrusted to the first comer; those who had made a special study of philosophy were systematically pushed aside. And while the official instruction had thus sunk so low, all freedom of thinking was kept down, under suspicion of revolutionary tendencies. The sleep lasted about twelve years.

But when, in 1863, the minister of Public Instruction, M. Duruy, restored the teaching of philosophy, and freer scope began to be allowed to unofficial speculations, the minds of men and circumstances were entirely changed. During the twelve years there had been a slow incubation which was soon to bear fruit. Eclecticism had been attacked by two eminent men who had been trained in it, M. Vacherot and M. Taine. The former drew upon himself a brilliant disgrace by his *Histoire de l'École d'Alexandrie;* the latter, quite young at the time, began his literary career with his *Philosophes français du XIX^e^ Siècle*, a book which, I am told, is thought too severe in England, but which, in France, was very well fitted for the work of destruction, and which perfectly attained its aim. At the same time, the study of the physical and natural sciences, completely ignored by the Eclectics—no school having ever divorced itself so completely and shamefully from the sciences—led many minds, even unconsciously, to philosophic conceptions. Positivism, which had hitherto grown silently, was organised, collected adherents, and became the philosophy of men of science, just as Eclecticism had

become that of men of letters. Some years later, the translation of the works of Stuart Mill, and the introduction of more recent products of English philosophy, contributed signally to enlarge the horizon in France. Lastly, whilst Eclecticism was perishing in its torpor, some thoughtful minds, with spiritualist tendencies, were seeking for a metaphysic in harmony with them, going back to Maine de Biran, and throwing themselves especially into the study of Kant, whom they charged Cousin with having misunderstood and distorted.

Such are the various elements that were silently fermenting during the period of twelve or fifteen years. Thence sprang the present movement of French philosophy which we are now to consider.

I. Let us begin with the school which is, I believe, least known in England. It is a mystic spiritualism, very hostile to Eclecticism, whose place it makes every effort to usurp in the Faculties and *Lycées*, in short, in the whole system of Public Instruction. The chief representatives of this school are M. Ravaisson, who is its leader, M. Lachelier, and M. Fouillée, professor of philosophy at the *École Normale*; the two latter having, however, some peculiar views, which will be indicated later on.

M. Ravaisson was born in 1811. He has never been a professor; the offices he has filled have been purely administrative. He has written very little, and his enemies accordingly allege that rarely has it cost any one so little to become head of a school. A doctor's thesis *Sur l'Habitude* (48 pp. 1838), his *Essai sur la Métaphysique d'Aristote* (1837-1840, 2 vols.), a work highly esteemed, with an article *Sur la Philosophie de Hamilton* (1840), were long his only titles to repute. In 1868, on occasion of the Universal Exhibition, a series of reports on the state of literature and science was published in France: M. Ravaisson was entrusted with philosophy, and his report (in 4to 266 pp.), made some noise. The exposition of the various systems, which fills the greater part of it, was thought impartial, though slightly contemptuous. The concluding pages contain the author's own theories. The Eclectics charge them with a "sibylline obscurity," and we can hardly hope to expound them clearly.

The doctrine which M. Ravaisson claims to establish is called by himself a Spiritualistic Realism. He quarrels equally with materialism and idealism; the one rests on an abuse of analysis, the other of abstraction. Materialism tends by successive steps to resolve everything into materials more and more elementary, to reduce the higher to the lower, thought to life, life to movement, movement to a change of relations between inert and passive bodies; in short to bring every thing to "inertia and torpor," to those "widest conditions of physical existence which

are the minimum of reality". Idealism, in arriving by progressive generalisation at an idea of Being which is only the last degree of abstraction, departs equally from that which really is. It eliminates the specific and differential characters; it thinks it reaches the ideal of perfection, but in fact it reduces everything "to the most elementary logical conditions which are the minimum of perfection and of intelligibility". On the other hand, the true method (that of M. Ravaisson), proceeds synthetically; it seizes the essential, it finds reality. For this we must dive into ourselves, and there, by reflection, discover in the fact of consciousness, under the changing aspect of internal phenomena, the "act" that makes us what we are, that *is* ourselves. "From this internal point of view the soul has a perception of itself in its essence *(fond)*, which is pure activity, without the need or possibility of representing to itself farther an inert substance as its bearer." Nay, more; reflection does not only reveal to us our own essence, but it reveals to us also "the Absolute in which we all participate," and consequently the ultimate reason of things. Thus the true method of metaphysic consists in this simple and indivisible operation, by which we have in ourselves an immediate consciousness of the Absolute. Such is the fundamental principle of M. Ravaisson's philosophy. It is not surprising that he holds metaphysic to be related, above all, to art and poetry.

According to him, reflection does not only teach us that the foundation of our being is an "act," but it reveals to us that this act in its true nature is "free from all conditions of space and even of time". This infinite activity bears the name of "pure act". As soon as we have succeeded in seizing it in ourselves, all is explained; we are placed at the true point of view from which everything is understood. "All perspective," says the author, "is relative to a point, to a single point. Seen from any where else, all is out of proportion; seen from this point, it is true in all its parts. The universal perspective, which is the world, may be said to have for its point of view—its one point of view—the Infinite or the Absolute." The only true existence is this pure activity, which, when its essence is better defined, is called Love and the Good. These two last terms show the mystic tendencies of the school and the predominance it gives to morality.

The principle of things is thus a moral principle, and true philosophy consists in discovering it everywhere. There is in all things, though in different degrees, mind, love, the tendency towards the Good. Berkeley was right in saying in his *Siris* that in all that exists there is life, in all that lives feeling, in all that feels thought. The ground of matter is mind, and true know-

ledge is the art by which mind discovers itself amidst appearances the most gross. The universe exists only in so far as it is intelligible, in so far, that is to say, as it contains mind. "The world," says M. Lachelier, "is a thought that does not think itself, suspended on a thought that thinks itself." But intelligence being only the *physique* of the mind, this spiritual foundation of everything is will, activity, and not intelligence. Though all true existence is resolved "into the infinite mind and into love," though nature in all its degrees is a "refraction or dispersion of mind," there is, nevertheless, a difference between these degrees, there is a hierarchy of beings reaching from the simply mechanical phenomenon to the absolute Good, which is perfection and love; and the place of every being in the series is determined by its degree of activity and of tendency towards the Good. Consequently, if we place ourselves at the point of view of the Absolute, which is, as we have seen, the true position, the totality of existences composing the universe will appear to us under two different aspects, which are the reverse the one of the other; the one constituting the kingdom of necessity, of logic, of geometry, of mechanism, that is, the series of efficient causes; the other constituting the kingdom of liberty, of morality, of grace, of love, that is, the series of final causes. Nature, to the materialist, consists in a series of causes and effects ruled by an implacable fatality; to him thought has its cause in life, life has its cause in inorganic matter, and so on to the last elements, which are the cause of all. But materialism lets itself be misled by a kind of mirage which reverses the appearances of objects; it takes the apparent order for the real order; it interprets everything the wrong way. The true explanation is that given by final causes. Nature every where shows a constant progress from the simple to the complex, from imperfection to perfection, from a feeble and obscure life to one ever becoming more and more energetic and intelligent. Every degree of existence is in relation to that which is below it an *end*, in relation to that which is above it a *means*. We have thus an ascending series of means and ends, which is the reverse of the descending series of effects and causes. And the explanation by finality is the true one, because it alone does not commit the gross error of referring the superior to the inferior, the greater to the less, but measures and places every thing according to its degree of perfection. Thus, far from everything being effected by a dead mechanism, all is caused by the development of a tendency to good, to beauty, and to perfection. "In this world necessity is the appearance; spontaneity, liberty is the reality."

Such are the essential traits of M. Ravaisson's metaphysic. Maine de Biran, Lotze, and Schelling (in his second philosophy),

have been its chief inspirers. It is not easy to give a clear account of it, for the school is far from priding itself on its precision. M. Ravaisson is an æsthetician before every thing, and prefers the methods of art to those of science. He fears "the arid scholasticism that holds aloof from the things of soul and heart, which yet have revelations of their own, more perhaps than aught else". No school has so much abused the words "love," "grace," and "liberty". With regard to the positive sciences its position is clear enough. This universal spiritualism has raised itself so high that it believes itself in an impregnable citadel, which the rising tide of experience and of scientific research can never reach. This internal method, which understands and explains everything by a mystic revelation, treats all the data of science as indifferent materials, to be employed and interpreted at fancy. To speak the language of M. Ravaisson, scientific data are the means of which his metaphysic is the end. Accordingly, most disciples of the school do not conceal that, in their eyes, reflection teaches more of philosophy than all the experience in the world. Hence also a certain esoteric tendency in them, an obscurity desired and sought after, which keeps the profane at a distance.

M. Lachelier, one of the two chief adherents of the school, has published a short work, *Sur le fondement de l'Induction* (1871), which baffles most readers by its rare conciseness. Much more precise than M. Ravaisson, he is above all things a logician, and in writing he aims at the utmost exactness. This book only prepares the way for his definitive philosophy, which he promises to publish later. It would be unjust to judge him upon it. As a professor, he has had great influence. During his twelve years' teaching at the *École Normale*, he has exercised over his pupils, who are now placed in the *Lycées* and Faculties, an ascendancy all the more remarkable that it is not due to any prestige of eloquence but to a strict and honest study of philosophical problems.

M. Fouillée is the most brilliant mind of the school. His exuberant talent is shown in his *Philosophie de Platon* (1869), and his *Philosophie de Socrate* (1873), important works in which the author's own doctrines are often mingled with his historical expositions, but above all in his book on *La Liberté et le Déterminisme* (1872). Like the rest of his school, he fully accepts the data of science on condition of subordinating them to the moral point of view, which contains the true ground of things. In his historical writings great erudition is shown, but combined with a tendency, unsatisfactory in an historian, to interpret texts in the sense of his own mind and doctrine. He has expounded and applied in his different works, as well historical

as dogmatic, a *method of conciliation* which may be considered the special characteristic of his philosophy. According to M. Fouillée and his followers, this method differs from that of Eclecticism in the way that *union* differs from *selection*. Whilst M. Cousin chose this doctrine and rejected that, M. Fouillée aspires to reconcile them all in a larger unity. For this a series of mean terms must be interposed between two opposite ideas or doctrines, gradually reducing their difference. In this way he has tried to reconcile the two contrary theses of liberty and determinism. According to him there is no advance till everything is embraced, and the method should exclude exclusion only.

II. It would be a mistake to think that the school of which we have just spoken has hitherto had much influence in France. It has never really addressed itself to the general public, but is supported for the most part by the younger academic class who seek in it a substitute for Eclecticism. On the other hand, the philosophic group that will now occupy us, is not only outside the official world, but is treated by it as an enemy; we mean the Positivists and the Experientialists generally.

It is quite unnecessary to explain here the nature of Positivism, the doctrine being well-known to English readers, as expounded long ago by Stuart Mill. Let us only call to mind that, at the time of its appearance (1830-1842), the *Cours de Philosophie positive* of Auguste Comte was far from obtaining recognition. The dominant school did not even do it the honour of discussing it. It was chiefly in the first years of the Empire that the doctrine began to gain ground and gather supporters, especially among the men of science and doctors, who did not take to Eclecticism. On the death of Comte (1857), two contrary tendencies which already existed among his followers became clearly manifest. Three things are comprised in the work of Comte, a philosophy, a polity, and a religion. Amongst his disciples, one group accepted his work in its entirety, while another accepted only his philosophy, and rejected his polity and his religion. These two groups subsist at present in strong opposition to one another.

The head of the orthodox positivists is M. Laffitte, and their principal representatives are M. Robinet, M. Audiffrent, M. Sémerie, &c. They had their own organ, *La Politique positive*, which did not live. This school is little known to the public, and excites only a certain curiosity. The whole body of its adherents in Paris is estimated by one of them at 150, amongst them a number of "*proletaires*". M. Laffitte collects the faithful in the apartment of his master (Rue Monsieur le Prince, 10), which, in accordance with his formal will, has been kept just as it was at his death, in order to be the first seat of the worship of

Humanity. Many of them are animated with a truly religious faith, and I have heard them speak with an enthusiasm worthy of the brightest epoch of the Middle Age.*

The other group—that which accepts the philosophy of Comte and rejects all the rest—is headed by M. Littré. This group is far the most powerful, and its influence upon the philosophic movement in France has been great. It was in 1840 that M. Littré became a disciple of Auguste Comte; from that time no one has done more to popularise his ideas. All the works of M. Littré—in erudition, philology, history, and medicine—are deeply imbued with the spirit of the *Cours de Philosophie positive.* In 1867, with the aid of M. Wyrouboff (a Russian), Professor Robin, M. Naquet (now a deputy), and others, he founded a Review, which was designed to spread positivist doctrines, freed from all the religious and political superstructure added by Comte in the last part of his life. This organ, *La Philosophie positive,* has now entered upon its ninth year. For all this time M. Littré has borne the chief part of the burden of it, anxious above all things to preserve the doctrine of Comte intact and pure, and to maintain Positivism in the face of new doctrines, such as Darwinism, physiological psychology, and later classifications of the sciences. Positivism has had the merit of being for many years the only philosophy we had which was founded on science, the only doctrine which addressed itself to men of science desirous of obtaining broad views and general ideas. Unhappily it has remained closely confined within its own dogma, persuaded that nothing ought to be added to or subtracted from it; it maintains that the only fruitful schools are those which remain pure, whilst history, on the contrary, teaches us that none last but those that are being constantly modified. There is, besides, a tendency in this school, though it rejects the polity of Auguste Comte, to occupy itself chiefly with the study of social phenomena, so that many of its adherents are bound together principally by a community of political opinions.†

In our opinion what has most impaired the influence of M. Littré and his followers, is the introduction into France of a much wider positivism, often spoken of among us by the name of "contemporary English philosophy". Positivism, which is a rounded and finished doctrine claiming to be unchangeable, must

* Amongst the works issued by this school we will cite Laffitte—*Les grands types de l'Humanité;* Robinet—*Notes sur l'œuvre et la vie d' A. Comte;* C. de Bligniéres—*Exposition abrégée et populaire de la Philosophie et de la Religion positives.*

† The two positivist bodies of which we have just spoken, have endeavoured, each in its own way, to take advantage of the new law on liberty of superior instruction and to found positivist schools; these projects have not hitherto come to anything.

not be confounded with the positive spirit, which is only a method of philosophising. There are in France many people, especially amongst those possessing scientific culture, who, while distrusting metaphysic, and maintaining that speculations should be always supported by facts, have yet no wish to be shut up within the narrow bounds of a fixed school like Positivism, and who think that if it is a question of adhering to a dogma, fixed once for all, philosophising is not worth the trouble. To these men, whom the school of M. Littré rejects as dissenters, English positivism—represented in different degrees by Stuart Mill, Herbert Spencer, Bain, Lewes, Huxley, and Tyndall—has furnished a standing-ground. Besides, the general influence of English ideas has of late been considerable, and it may be expected that Positivism will some day be swallowed up in the far greater wave of Experientialism.

M. Taine was the first to introduce the contemporary English ideas into France by his excellent essay on Stuart Mill's *System of Logic* (1863). A year later, M. Mervoyer in an *Étude sur l'Association des Idées* spoke for the first time of the psychology of Bain and Herbert Spencer. The labours of Dr. Cazelles who for more than ten years has been steadily translating the chief English works, the analyses and expositions made by others, still more recently the introduction of the works of German physiological psychologists (Fechner, Wundt, and Helmholtz),—all this has contributed to change the current of philosophical speculation in France, and above all to lend it new force.

The chief representative of this group, whom we have called the Experientialists, is unquestionably M. Taine. Trained by the Eclectic School, he broke with it at the age of twenty-three. He studied anatomy, the natural sciences and mathematics, and gave himself a scientific education. He understood (what no one belonging to Cousin's school at that time understood) that philosophy should be something else than an oratorical amplification and a literary exercise. More than once he has told what trouble it cost him to break with his pseudo-philosophical education and the habits of mind that it induced. He owed his conversion to himself only, and not a little vigour of mind was required for the rupture. His first work, *Les Philosophes français du XIX^e Siecle* (1857), was a book of pure criticism; there is at most only a glimpse of the personal views of the author in the last two chapters. From this time M. Taine displayed a strongly marked preference for psychological studies. It was as a psychologist that he published later on his works on Livy and Lafontaine, his *Essais de Critique et d'Histoire* and lastly his great *Histoire de la Littérature anglaise*, the preface to which states the principles of his psychological criticism. Through these publi-

cations he may be considered as the chief representative in France of what the Germans call *Völkerpsychologie.* History is psychology developing itself in time and space, historical documents are to the psychologist traces by which he may recover the ideas, the sentiments, the passions, all the mental states of which historical events are only the effects, so that "to explain a revolution is to write a page of psychology". A work of art—a poem, a statue, a picture or symphony—may be studied from different points of view by the critic or moralist. M. Taine studies as a psychological naturalist. "Man may be considered," he says, "as an animal of a superior species, who manufactures poems very much as silk-worms make their cocoons and bees their hives." M. Taine's concern is to examine these processes of manufacture, to discover the "master-faculty" which explains everything in the artist, to show that every work of art is a product of three essential elements—the race, the medium, and the time. His different essays on art, literature, and the history of manners are rightly understood only when they are looked upon as fragments of an ethnographical psychology.

In his treatise *De l'Intelligence* (1870) he takes up general psychology, that is to say, the mechanism of the mind in itself and independently of its development in history. He confines himself, however, to the study of Knowledge and of its elements, reserving for a later publication, which he has long promised us, the study of Feeling and Will. Three principal points distinguish the treatise *De l'Intelligence* from all psychological works till then published in France, the absolute rejection of the faculty-hypothesis, with the use of physiological materials and of ideological analysis. From the beginning of his career, M. Taine had sharply criticised those illusory explanations by faculties of the mind, which the Eclectic school so greatly abused; he ridiculed "those little spiritual beings hidden under phenomena as under garments," and "that idea of the infinite which comes from reason, the faculty of the infinite". He wishes psychology to be a science of facts, and thus represents in France the same tendencies as the contemporary English psychologists. Of physiology the Eclectic psychologists were absolutely ignorant, and they viewed it with complete indifference. M. Taine, on the other hand, has conned the writings of anatomists, physiologists, and physicians, noting rare facts and singular cases which might throw light on ordinary phenomena. Nothing of the kind has been seen in France since the time of Cabanis and Broussais. But M. Taine does not think that cerebral physiology is enough, and by this he is clearly marked off from the Positivists. He attaches the utmost importance to the *analysis* of ideas and signs, that is to say, ideology. He takes up the tradition of Locke and Condillac.

With him to analyse is to translate, and to translate is to detect under the signs distinct facts. Words, such as *force, digestion, will*, should be brought back through successive translations, step by step, to certain simple facts and relations, for there is nothing more in the case. To constitute a science is to reduce particular facts of a certain kind to one single fact. In psychology this reduction is made by analysis, and analysis is to consciousness—which is too rough an instrument—what the microscope is to the naked eye.

This is not the place to expound M. Taine's book in detail, and besides it is well known to English readers. One point may however be noted. This book and the works of contemporary English psychologists are the only ones to which physiologists and medical men at present have recourse. Till the last few years they used to go to the school of Condillac in search of any psychological explanations of which they had need. This apparently unimportant fact has its significance, for it shows how utterly without influence and authority over men of science the Spiritualist School has been.

To conclude our account of the Experientialists, we will mention two eminent men of science, M. Berthelot and M. Claude Bernard. The former, by his works on chemical philosophy and by his letter to M. Renan *Sur la Science idéale et la Science positive*, has earned well-deserved fame as a thinker; he has promised a work *De natura rerum*. The latter has given us important considerations on the nature of life, and has written in his *Introduction à la Médecine expérimentale* a treatise on method, the more instructive that it is drawn from his personal experience.

We may add M. Léon Dumont to the group of Experientialists, observing at the same time that he displayed a decided taste for monism in metaphysic. He devoted himself especially to psychology and æsthetics, publishing very early a book *Sur les Causes du Rire* (1862) and quite lately an elaborate study on the *Théorie de la Sensibilité* (1876). He also in a great number of articles sought to make known the German and English works of the day. These various labours were only the prelude to an original work which he contemplated. He had in view the publication of an extensive treatise, in which he meant to deal with the different problems of metaphysics according to the method of the natural sciences, and in conformity with evolutionist doctrines. Death has unexpectedly removed him at the age of 39 (in January, 1877), and his loss is deeply felt by all the friends of philosophy in France.

III. M. Renouvier is, by the acknowledgment even of his adversaries, one of the most vigorous and penetrating thinkers in France. He has set forth his doctrine in his *Essais de Critique*

générale (4 vols. 1854-1864)* and in his *Science de la Morale* (1869). In 1868, he founded, with the aid of some fellow-workers, *L'Année philosophique*, a collection of papers designed to give every year a critical account of philosophical work of all kinds. This collection, after continuing for two years, was transformed into a weekly review, *La Critique philosophique*, which has just entered upon its fifth year and which is edited by M. Renouvier with the assistance of M. Pillon.

Speaking generally, it may be said that M. Renouvier has set himself to continue the work of Kant. According to him, philosophy consists in a general criticism of knowledge as a preparation for ethics. "I accept," he says, "one fundamental formula of the positivist school, the reduction of knowledge to the laws of phenomena." But he forthwith breaks off from the school of Comte who, we know, never attached any importance to the critical consideration of the faculty of knowledge. With M. Renouvier, on the other hand, this work of criticism is all-important. The starting-point of his *Critique* lies in the very simple and common concept of *thing*. Things exist, and all things have a common character, that of being represented, of appearing; for if there were no representation of things, how should I speak of them? He then shows that Thing and Representation are so related to one another that in consequence of an inevitable circle the thing must be defined by the representation, and the representation by the thing. Pursuing the analysis further, we find that the representation has two faces, containing two correlative elements inseparable from one another. M. Renouvier calls one the *representative*, and the other the *represented*. (They are generally called subject and object.) The grand error to be avoided is the erection of these terms into entities. Our author insists upon this point—that he posits representations, nothing but representations, and does not admit of anything else. He rejects all supposition of a thing-in-itself, of a substance. It is this phantom of substance that has changed philosophy into 'idolology,' and there is no doctrine that M. Renouvier attacks with greater vehemence than this. Thus there is no substance, and the thing is identical with the phenomenon. This analysis of the principles of knowledge is completed by an inquiry into the categories or "laws of phenomena". The categories, that is to say, the first and irreducible laws of knowledge are: relation, number, position, succession, quality, becoming, causality, finality and personality.

*A second edition of the *Essais* appeared in 1877 (in six volumes). By numerous additions M. Renouvier has brought up his book to the level of contemporary doctrines. Above all he has devoted a very large place to the criticism of contemporary English thought.

Such are the general characteristics of the *Critique* of M. Renouvier. It need hardly be said that with him the Ego is no more an entity than anything else. But if on this side his Criticism deserves to be called sceptical, it on the other hand founds a very decided dogmatism on morality. Following the footsteps of Kant, M. Renouvier looks upon liberty as the very foundation of man, his essential and characteristic trait. Apart from the evidence attaching to the perception of phenomena, all certainty is reduced to *belief*, and the foundation of this belief is free-will. It is certain that there are acts of which we morally approve, and this certainty forms the basis of the whole of ethics "and of those great moral inductions allowed and required by practical reason". In this we see what Kant called the postulates of the practical reason. "There is a God, a soul, and freedom, because there is a moral law. The moral law is thus the first of all truths and the ground of all truths of this order, and it is liberty that establishes it in establishing itself." The ethics of Criticism is built "upon a rational principle, most clear and absolute," upon a "principle of justice and not of love," which Kant formulated under the name of the *categorical imperative*.

M. Renouvier is constantly indignant with those who accuse him of scepticism. Criticism, he says, is a doctrine of an eminently believing character; it simply aims at replacing the pretended metaphysical proofs, now completely discredited, by moral proof. He makes of ethics the central and ruling science, that to which every other is subordinate—social science, the philosophy of history, theology, metaphysic, even the general principles of the cosmological and natural sciences. Add—what is very intelligible—that M. Renouvier has an unconquerable horror of pantheistic doctrines and that he hunts them down with unwearied vehemence. His philosophy, of which we have given no more than the chief features, abounds in details, evincing the impress of a profound and vigorous mind that excels in criticism. I regret to have to state that in France his works have not been sufficiently read, and that they are far from obtaining the success they deserve. The fault lies in the author's style and still more in a want of art and composition, not easily forgiven by French readers. It should be remarked, however, that of late years the diffusion of his doctrines has begun to make way; not so much perhaps on their own account, as because they are related to the movement which is known by the name of Neo-Kantism in Germany, and of which the influence is now being felt in France.

IV. We cannot connect with any special school three thinkers who yet must not be passed over in silence in a sketch, however

slight, of French philosophy—M. Vacherot, M. Renan, and M. Cournot.

A pupil of Cousin's, M. Vacherot broke off early from the doctrines of his master. Already in his *Histoire de l'École d' Alexandrie* he went beyond Eclecticism in many points. The split was complete in his most important work, *La Métaphysique et la Science* (1863), in which he blames the (Eclectic) spiritualists for their incessant appeal to what they are pleased to call common sense, for their tendency to refute doctrines by their supposed consequences instead of discussing principles, for the vexatious part which they assume of "organising a mental police," and for their metaphysical solutions which are often nothing but "nonsense pure and simple". M. Vacherot agrees with the critical school, and even with the positivists, in rejecting all *à priori knowledge*. But he upholds certain *à priori concepts* as the proper subject of metaphysic. The distinction between knowing and conceiving, that is to say, between what is given to us as *real* and what is thought as *ideal*, is the basis of all metaphysic. "The great objects of metaphysic," he says, "are God and the world; the world is reality, God is the ideal." The world is made known to us by our senses, and can be known in no other way. It is revealed to us under the double form of Nature and of History, the former embracing the whole of physical phenomena, the latter comprising psychological and social facts. As vacuum is, according to our author, a contradictory idea, the Real forms a continuous and infinite whole, so that the Infinite may be considered synonymous with the real world. The Ideal, on the contrary, escapes by its very definition from the condition of reality; therefore it neither is nor can be. It only exists after the manner of geometrical figures which, as soon as they are realised, cease to be perfect, and lose all the rigour of their definition. Perfection and Reality are terms which "cry out against a junction". Thus whilst many metaphysicians have conceived perfection as implying existence, to M. Vacherot, on the other hand, these two terms are mutually exclusive, not indeed because existence is an imperfection, but because real existence has conditions that involve imperfection. "The thought of this book," he says, in conclusion, "is the profound distinction between the perfect and the infinite, the one being conceived as the supreme ideal, the other as reality."

M. Vacherot has drunk deep of the philosophy of Kant and Hegel, and we meet with the same influence in M. Renan. A renowned scholar and a most brilliant and exquisite writer, M. Renan has never been a philosopher by profession; he is a *dilettante* who, by the delicacy and wonderful suppleness of his style, has a singular power of escaping from all fixed views,

and of giving to all solutions a vague and indifferent form. Persuaded that what is extreme is false and that the truth lies only in *nuances*, M. Renan speaks the language of all the schools, exciting the admiration and anger of all. To him metaphysic is nothing but a most elevated and noble manner of conceiving and grouping things; it is to every thinker "whatever pleases him". He admires nothing so much as the ancient expression *placita philosophiæ*. The simple alone believe that they have discovered the enigma of the world; the fastidious are satisfied with giving to current solutions a more and more elaborate interpretation. "God, Providence, Immortality, are so many good old words, perhaps a little lumbering, which philosophy will interpret in senses more and more refined, but which it will never replace to advantage. Under one form or another, God will always be the summary of our supernatural needs, the *category of the ideal*." This conception of God, in which M. Renan again joins company with M. Vacherot, is one of the very few clear theses to be met with in his writings. He also appears deeply penetrated by the idea of a certain continuous progress in things, in consequence of which the world must have passed from a primitive state, in which there was nothing but atoms with mechanical properties, to the present state, in which life manifests itself with consciousness and the tendency towards the ideal. For the rest his *Dialogues philosophiques* (1876) have shown once more how difficult it is to choose among his many contradictory opinions, and even to be sure that M. Renan is not often playing with his reader.

M. Cournot, who has lately died (March 30, 1877), appears to us also as a thinker standing apart. By training and by occupation, he was a mathematician. Many of his writings are devoted to the relation of mathematics to philosophy or to the moral sciences. The two books containing his philosophical opinions are; *Essai sur les fondements de nos connaissances* (1851) and *Traité de l'enchainement des idées fondamentales dans les sciences et dans l'histoire* (1861). If we had to characterise M. Cournot in a single word, he might most accurately be called a *probabilist*. He is related among the ancients to the representatives of the New Academy (Arcesilaus and Carneades), among the moderns to Kant as the critical inquirer into human reason. To M. Cournot, philosophy is not and cannot be a science, because a science requires rigorous exactness, and because a science must define and prove and measure, whilst philosophy deals with subjects which admit neither of measurement, nor of exact definition, nor of satisfactory proof. What is then the aim of philosophy? It is to obtain a system of views in relation with the order and reason of things: these

views however can be no more than probabilities. There is order in things, and there is something in our mind that corresponds to order, namely reason. What order is objectively, reason is subjectively. "Order is the friend of reason and its proper object." It is a fact that in nature regularity prevails, that there is order and constancy. To suppose that this order is produced without law or reason, and by pure chance, is an extremely improbable hypothesis. Experience shows us that the laws we have ascertained in certain cases, appear to hold throughout time and space. Thus the existence of laws seems to be infinitely probable. "Speaking physically, infinite probability is equivalent to reality, but logically speaking it is never more than a probability." The highest function of reason (and this function is philosophy) is that by which it co-ordinates and classifies all our knowledge, and determines, by means of induction, the laws that make the order of things with the different degrees of probability belonging to them.

V. It remains to give some account of the system of public instruction in Philosophy, and we shall thus be brought back to the Eclectic or Spiritualist school, from which we started.

The philosophic instruction of France differs much in its organisation from that of England. It is given in the Faculties (superior instruction) and in the Colleges and *Lycées* (secondary instruction).

The Faculties, including the *Collége de France*, number only eighteen chairs of philosophy. The professors are in the singular position of having no students. Their courses are public and gratuitous, the door being open to every comer. Before a changing audience, composed in great part of idle people, the professor does not venture to touch upon serious questions. He aims at amusing rather than instructing. With some rare exceptions, most of the professors, especially in the provinces, talk of progress, of education, of right and duty—commonplace topics, which can be enlarged upon in choice language and without compromising the orator. In fact, he is watched with jealous care, first by the Prefect and the representatives of the State, in all that touches upon politics, but above all by the Clergy, in everything bearing even remotely upon religion. Thus the professors must choose between two things—a serious course before empty benches or commonplaces before a large audience. We should add that in Paris the liberty of the professors is somewhat though not much greater.

The only institution in France devoted to superior instruction which affords regular philosophical teaching to a constant audience, is the *École Normale* of Paris. The aim of this school is to train professors for all departments of instruction. In

philosophy, Eclecticism long reigned supreme there, all the more because Victor Cousin was for many years at its head. About 1864, a new influence made itself felt. M. Lachelier and M. Fouillée introduced the doctrines of M. Ravaisson, which excited great enthusiasm among the students. Unhappily, it may be said of their doctrine as of that of a great philosopher, *ad impellendum satis, ad edocendum parum.* They have not given to their students the one thing that instructs—method. Consequently many of these strive to imitate their masters without possessing their talent, and, though destitute alike of thorough knowledge and scientific culture, do not think themselves the less fit to improvise as metaphysicians and to resolve all problems.

At the *École Normale*, philosophical instruction is given to all the students for two years, even to those in training as professors of literature, history, or grammar. In the third year a special section of philosophy is formed (containing on an average three or four students) for the pursuit of deeper studies. There are two chairs, the one devoted to the history of philosophy and the other to philosophy, the professor entrusted with the latter choosing every year at pleasure a subject which he treats exhaustively. Many questions are thus left to the personal initiative of the students. On leaving the school the students pass the examination of *Agrégation.* This examination, the same for the whole of France, takes place every year in the month of August. It is open not only to the students of the *École Normale*, but to all who have the degree of bachelor of science or licenciate in letters. It is very difficult and is conducted both by writing and *vivâ voce.** Three candidates, on an average, pass every year. The object of this examination is to form a body of professors for the *Lycées.* The title of professor is given to none but *Agrégés;* the *non-Agrégés* are called *chargés de cours.* There remains a final test for the Doctorate, which alone empowers professors to teach in the Faculties. For the Doctorate two printed theses are required, one (very short) in Latin, the other, which is really a book, in French. Some of these theses are remarkable both for their length (400 or 500 pages) and their ability; some have excited much attention. These two theses form the basis of a formal disputa-

* The examination is in seven parts; a philosophical dissertation and another in the history of philosophy; two *vivâ voce* examinations, the one on philosophy, the other on its history; and a commentary on Greek, Latin, or modern philosophers. The works serving as texts for these commentaries are changed every year, and are fixed by the Minister. Plato, Aristotle, Cicero, Seneca, Bacon, Descartes, Leibnitz, Malebranche, and Kant are most frequently chosen.

tion, which the candidate supports for six or seven consecutive hours.

There is nothing important to tell of the Catholic Universities, the foundation of which was permitted by a recent law. That of Paris has existed for more than a year, and another, which will be, it is said, the most important, has been opened at Lille. Their tendency in philosophy will be to revert to pure scholasticism, that is to say, to the doctrine of St. Thomas, taught in Latin in the manner of the Middle Age. But as yet no one has ventured to put this method in practice; it would offer too little chance of success.

Philosophical instruction, in the strict sense of the word, is given in the *Lycées* (to the number of seventy-two) and in the principal Colleges (about a hundred and fifty). It is addressed to pupils of about eighteen years of age, who are regularly entered and form a fixed audience. There is a uniform programme for the whole of France, according to which students competing for the Bachelor's degree are examined.* They pass this examination before the Faculty-professors. The programme, which remains in substance what it was made by Cousin, comprises some little knowledge of psychology, logic, ethics, theodicy, and the history of philosophy. It will be easily seen that the courses at the *Lycées* and Colleges are much less free than those of the Faculties, since they are not addressed to men but to youths preparing for an examination, and must besides keep within the one programme drawn up for the whole country. The professor is closely watched by the Faculties, the State, the bishops and the families. Thus an official philosophy is formed which is rigorously orthodox. It has unvarying solutions for all problems, a fixed number of proofs of the existence of God and of the immortality of the soul, &c. A student who does not answer in conformity with the programme is rejected. The consequence is that many think one thing and say another. I must add that the same is often true of their masters, though it is only fair to acknowledge that latterly many young professors have endeavoured to introduce the new doctrines under the form of historical expositions and discussions. Many of the students in our *Lycées* know something of the logic of Stuart Mill and of the psychology of Bain and Spencer, but the heads of Spiritualism are little in favour of these innovations.

Spiritualism, such is, in fact, the name of this official philosophy. It would be useless to dwell at length on this doctrine which has reigned amongst us for fifty years, and which

* The philosophical tests for the Bachelor's degree consist of a written dissertation and a *vivâ voce* examination.

consists in a collection of opinions founded on common sense, and adapted to the religious beliefs of the majority. If we extract from the different religions subsisting in Europe the common basis that is called deism or natural religion, and deduce from this deism the theology, the morals, and the psychology which it involves, we shall have Spiritualism. The rest is only matter of detail. As M. Taine says, "in point of science Spiritualism has no existence. Its proofs have no interest, or have no interest any more. It has no longer the appearance of a philosophy but of a *dépôt.* It collects the sound opinions that flow from all parts of history, collects and clarifies them, and that is all." It is a timorous, fearful doctrine, that abhors all disturbance, and is very compliant to the clergy; many of its supporters are avowed Catholics.

Spiritualism has its chief representatives among the professors of Faculties, and the members of the Institute *(Académie des Sciences Morales et Politiques).* This Academy, which includes a dozen philosophers* among its members, is the sanctuary of philosophical orthodoxy. Papers are read there which must be communicated beforehand that every rash word may be removed. It proposes subjects for competition, and awards prizes. The competitions have produced good historical works, and estimable dogmatic works, but these latter—the doctrine being a foregone conclusion—have done nothing to advance the solution of any question. Latterly the Spiritualists, sharply attacked on all sides, have tried to renovate their system, but the innovations seem very poor to every one outside their school. They consist in sacrificing less to literature and eloquence, in leaning rather upon Maine de Biran than upon Cousin for support, in attacking evolutionist and experientialist theories, or in assimilating them as far as possible. The most active representatives of the school are M. Franck, M. Lévêque, M. Caro, a brilliant controversialist, M. Bouillier, known by his excellent *Histoire de la Philosophie Cartésienne,* and M. P. Janet, whose two last works, *La Morale* (1874) and *Les Causes finales* (1876), may give an idea of the tendency of Spiritualism to put itself in harmony with contemporary thought.

Such are the principal features of the state of Philosophy in France. We have limited ourselves to tracing the main lines, and to giving the principal names. It is difficult to see what will be the outcome of this rather confused *mêlée* of doctrines.

* The Academy is divided into five sections: Philosophy, Morals, Jurisprudence, Political Economy and Statistics, and General History. It thus forms a very heterogeneous assemblage. Amongst its members neither Littré, nor Taine, nor Renouvier, nor Renan, nor Ravaisson is to be found.

As for Spiritualism, its position is still strong. It profits by the power which in France belongs to everything supported and administered by the State. It will probably long remain the foundation of public instruction, and the philosophy of men of the world. Its moderate character, its continual manœuvrings, and its timid innovations, fit it for playing this part. It is an enemy from within that tends to supplant it—that Spiritualistic Realism which might also be called the philosophy of *Pure Love.* This doctrine has laid its hand upon the *École Normale,* and, consequently, upon the professors whom it sends forth. M. Ravaisson absolutely controls the State examinations in philosophy, and the candidates all come under his influence. But his obscure and mystical metaphysic seems little suited to the precise and rather sceptical character of the French, and though many of the younger men are fascinated by it, its triumph is uncertain and its duration doubtful.

As to non-official philosophy, it cannot be denied that Positivism—in the large sense in which we have used the word—has struck deep root, and that it benefits in its turn by the favour accruing to opposition. There is less liking than there was forty years ago for verbiage and eloquence, more for facts, thorough study, and scientific culture. The rapidity with which English ideas have obtained favour is a symptom of this. The least hopeful acknowledge that the younger men work honestly, though a little fitfully, and that there is no want of good purpose among them. The foundation of the *Revue Philosophique,* open as it is to all opinions, has helped to encourage this development of individual work and above all to make known what is going on abroad; for a strong desire for information has succeeded to the indifference of the previous generation. We are meanwhile taking quiet counsel with ourselves; the wisest have gone again to school; we are working hard to renew our intellectual forces, and some years must elapse before it can be seen with what result.

TH. RIBOT.

VII.—CRITICAL NOTICES.

Physiological Æsthetics. By Grant Allen, B.A. London: Henry S. King & Co., 1877.

In this volume the author seeks to relay the physiological foundations of a theory of the art-pleasures. As far as physiology has yet advanced, it illumines the world of mental phenomena chiefly, if not exclusively, in its lower regions. Accordingly, Mr. Allen confines his investigations for the most part to the simpler and sensuous side of æsthetic feeling; and in order to throw light on this side, he studies the art-sensations in conjunction with the lower orders of sensation, namely, smell, taste, &c. The advantages of this partial mode of treating the subject are manifest. As the author evidently sees, one of the surest ways to provide a firm objective basis for art-theory is by means of such a physiologically grounded theory of the simple modes of pleasure.

While there are these advantages in studying apart the simpler department of the psychology of art, there are not wanting certain disadvantages. It may be doubted, for example, whether any generalisations respecting the conditions of pleasure can be certain and exact, except when based on a review of all modes of enjoyment. We shall see presently whether Mr. Allen has wholly avoided this danger. It may be said, too, that in the pleasures of art the sensuous elements are so inextricably interwoven with intellectual and emotional factors that a separate study of the former is rendered exceedingly difficult, if not impracticable. Illustrations of this difficulty, also, may possibly be found in Mr. Allen's volume. Finally, it may be objected that to confine our attention to the elementary side of art-pleasure, as Mr. Allen has done, is to appear to deny all uniformity and objectivity to the higher intellectual effects of art. Our author has certainly rendered himself liable to this charge by repeatedly insisting on an appeal to the uncultivated sensibilities of common people as against the judgments of a cultivated taste. As Mr. Allen has frankly disavowed any excessive devotion to art, it would perhaps be unreasonable to wish that he had carried his study of the conditions of pleasure into the more intricate regions of art-impression. And there is less excuse for regretting this inasmuch as he has done much to justify his partial treatment of the subject.

Mr. Allen begins by laying down a general theory of pleasure and pain. He accepts Prof. Bain's distinction between the massive and acute feelings, though, somewhat oddly, he imagines that massive sensations cannot at the same time be intense (p. 12). Pain, he tells us, arises from some injury or disruption of sensitive tissue, of which excessive action is an initial stage. As a rule, acute pains arise from destructive agencies, massive pains from excessive function or insufficient nutriment. Pleasure, on the other hand, is connected with a normal amount of activity of the organ, and increases with the area of nerve involved, also with the state of nutrition of the organ, and consequently with

the interval of repose preceding the activity. Mr. Allen arranges the various sensory organs according to the amounts of pleasure they yield. "The alimentary and reproductive senses" afford the strongest pleasures, being large organs having their activities greatly intermitted. "The weakest pleasures are those of the most universally stimulated organs, as in the tactual and thermal senses." The pleasures of sight and hearing, which are comparatively intermittent, come between these extremes. Mr. Allen meets the objection to his theory of pleasure that certain pleasures, as those of alcoholic stimulation, involve injurious results, by saying that in the pleasurable stage of the process no deleterious effect is produced. Lastly, he seeks to show, by an ingenious line of reasoning, that his view of the relation of pleasure to pain helps to explain the alleged fact that our maximum pains greatly exceed our maximum pleasures in intensity.

Our author, following Mr. Herbert Spencer, seeks to connect these facts of pain and pleasure with the laws of evolution. Pleasure and pain are the concomitants of healthy and injurious action. Their amounts, moreover, vary "roughly" as "the general value" of the particular organ "to the organism as a whole". Mr. Allen does not attempt to prove the existence of this relation of correspondence in the case of pain, and only illustrates it in the case of pleasure by saying that the two greatest bodily pleasures are those of eating and drinking and of sexual intercourse. The principle of evolution is further brought in to account for the consensus between the pleasures and pains of the different organs of sense, and beneficial and injurious qualities of substances entering the organism. Thus sweetness, the pleasurable stimulus of taste, corresponds in a large preponderance of cases with wholesomeness. The effect of evolution would be to bring about a special modification of nerve, *e.g.*, the gustatory, whose pleasurable and painful action would correspond with such chemical qualities of foreign substances as in the main coexist with nutritive properties.

This theory of pleasure and pain, though not new in its main features, is elaborated by Mr. Allen with considerable ingenuity. Yet we cannot but regret that the author had not made himself better acquainted with some of the latest discussions of the subject before working out his theory. If he had done so, he could hardly have overlooked the difficulties which facts put in the way of some of his sweeping generalisations. To take first the question of the conditions of pain: Even if we allow that certain sensations, as bitter tastes, which are painful in all degrees of intensity, answer to injurious stimulation, in spite of the circular appearance of the argument by which this is shown (p. 70), how are we to bring the pains of ungratified desire under Mr. Allen's principle? The omission to include these in his review of pains is all the more remarkable, since the writer to whom Mr. Allen owes most, Mr. Herbert Spencer, has given so great a prominence to them. Our author seems, too, somewhat to force facts into conformity with the requirements of his theory when laying down the conditions of pain in æsthetic sensation. He is able, by

help of Helmholtz's theory of musical dissonance, to bring the pains of the ear under the general principle of excessive and injurious action. But he hardly succeeds in including the effects of disagreeable combinations of colours under this law. He argues that discordant juxtapositions of colour produce their effect through a successive stimulation of the same class of optic fibres, which thus reaches the exhaustive and injurious point. It would follow from this, of course, that one and the same colour spread over a large surface would produce the pain of chromatic dissonance in its maximum degree. It need hardly be said that this consequence sufficiently illustrates the untenability of Mr. Allen's view of colour-discords. We do not say that these disagreeable combinations may not be brought under such a principle of painful stimulation as that laid down by Mr. Allen, but if so, it must be effected in quite another way from that here adopted.

The conditions of pleasure are not perhaps so intricate a subject as those of pain, and Mr. Allen's theory seems on the whole to supply a good explanation of the facts. His idea of classifying the pleasures of sense according to the degree of intermittence of stimulation is an ingenious and valuable one. Yet the author appears to recognise that this classification does not lead to very definite results. Thus, though sight is one of the most constantly active of the senses (Mr. Allen puts it below touch in this respect, though why, one does not see) it is, as our author points out, endowed with a special degree of recuperative power which enables it to go on acting pleasurably without sensible intermission.

With respect to the final interpretation of the conditions of pleasure and pain by help of the evolutionist's theory of organisation and life, it must be said that our author proves himself to have a firm hold of the new methods. His speculations are always interesting, and some of the results reached—for example, the reciprocal influence of bright colours in the vegetable world on the development of a taste for colour in animals (p. 156)—are of a striking character. What we miss is an adequate inductive basis for the generalisations put forth, and a due co-ordination of the different principles adopted. For example, the alleged correspondence between the amounts of pleasure and pain and the importance of the function certainly requires proof—and careful proof—in view of such patent facts as the torments attending an injury to the dental nerve, the comparative painlessness of many internal diseases, the slight amount of pleasure afforded by the processes of digestion, and so on. Then the reader is likely to ask whether Mr. Allen means that the bodily organs are endowed with nerves of a size and of a degree of sensibility proportionate to their importance in relation to the whole organism. His reasoning seems to imply this anatomical and physiological supposition, though it would probably be hard to substantiate it. Again, there seems to be a certain redundance in Mr. Allen's theory. For example, the special intensity of the pleasures of eating and drinking is in one place referred to the importance of the process (by-the-by are masti-

cation and deglutition more essential than stomachic and intestinal digestion?), in another place to the infrequency of the actions. Possibly our author would say that evolution has here effected a further modification enabling one of the most essential functions to be carried on intermittently and so with greater single amounts of pleasure, thus securing its due fulfilment. But is not this very result already sufficiently effected according to our author by means of the size of the nervous connections? While the principle of evolution seems to be here called in to do what is hardly necessary to be done, it appears in other places to be resorted to without a due recognition of the limits of its action. Thus, for example, in discussing the sensations of smell, Mr. Allen accounts for the fact that some poisonous gases do not (as most) smell disagreeably, by saying that this is "one of those failures of adaptation—those incomplete establishments of the consensus which must always be expected in all imperfect organisms" (p. 82). Here the writer assumes that the nervous organism might simultaneously have adapted itself both to the general and to the exceptional fact respecting the co-existence of agreeable odoriferous qualities with organically useful properties of gaseous substances. It seems to us, on the contrary, that in no conceivable way could the most perfect organism reach such a state of adaptation. In such a case the self-adaptation of the nervous organism to the prevailing concomitant of useful substances clearly involves a non-adaptation whenever this particular external relation fails to be realised. This is by no means the first example of an appeal to the principle of evolution to perform what looks very much like a miracle.

We have spent so much time in examining Mr. Allen's theory of pleasure and pain because it is decidedly the most valuable portion of his book. Next to this comes the definition of æsthetic pleasure as distinguished from other kinds. Mr. Allen, like Mr. Spencer, makes the real fundamental *differentia* of this class of pleasures the non-connection of the underlying activity with essential life-serving function. He adds to Mr. Spencer's conception of æsthetic action as identical with play, by bringing into view the passive character of art-enjoyment as compared with that of play. The absence of monopoly in the æsthetic pleasures, the characteristic on which Prof. Bain insists, is regarded by Mr. Allen as secondary in importance and dependent on the first: "as they are only remotely connected with life-serving functions, it follows that they can give pleasure to thousands without detracting from the enjoyment of each" (p. 41). This is not very obvious. It does not seem to follow that because life-serving processes are necessarily confined to the individual that other processes are indefinitely shareable. In truth Mr. Allen's own case of perfumery and cookery, which he excludes from the category of art (the first on the ground of its limited pleasure, the second because of its connection with essential functions), might have suggested this observation. The pleasures of bon-bons are far enough from essential processes, but they are non-æsthetic because they are

unshareable. Perfumery, again, is seen to be much more of an art than cookery, because odours are much more easily enjoyed by a number in common. So too the pleasures of the table when there is a large gathering, and consequently a disguising of the fact of monopoly, distinctly approach the æsthetic class. As a last illustration we will take the pleasures of touch, which are not adequately marked off from the æsthetic class by Mr. Allen. These are plainly enough remote from life-serving processes, yet they are non-æsthetic (except in an ideal or suggested form) because they cannot simultaneously be shared by a number of persons. We certainly think, then, that Prof. Bain is nearer the truth than Mr. Allen in making the shareability of a pleasure a leading essential in its æsthetic quality. Our author brings out in a very interesting review of the special senses other distinguishing features of the æsthetic pleasures. Thus the æsthetic senses are marked off in general by being slightly emotional and greatly discriminative. Mr. Allen it may be remarked, is a little inconsistent respecting the emotional character, since he excludes touch from the æsthetic class because it is "very little an emotional sense" (p. 96), and ingeniously seeks to account for the supposed objectivity of beauty by means of this fact of the slightly emotional character of æsthetic pleasure. Again, the action of the two æsthetic senses is attended, as a rule, with few and feeble pains. Our author appears to us decidedly to under-estimate the pains of æsthetic sensibility, as when he speaks (p. 56) of an "æsthetic environment . . . so utterly squalid and miserable as to give rise to a continuous state of discomfort almost amounting to positive pain". Surely this does not fully represent the emotional experience of an æsthetically cultivated mind. Mr. Allen does not make the important remark that one element in the purity of the æsthetic pleasures is their positivity, they being in no measure dependent on a previous state of desire or appetite. Once more, the author assigns its æsthetic superiority to the eye on the ground of its great recuperative power, which allows of protracted pleasurable stimulation, also on that of the number of elements which it contributes to the aggregate of æsthetic objects.

We have not space to follow Mr. Allen in his exposition of the different senses. On the whole he shows himself to be abreast with the latest researches, though he does not seem to be aware that the idea of specific energy (which he carries so far as to infer from it the existence of special thermal fibres) has been a good deal discredited by such powerful attacks as those of Wundt and G. H. Lewes. Our author's account of the two æsthetic senses does not quite satisfy us. While he fully expounds the musical sensations as elucidated by Helmholtz's classic researches, his treatment of visual sensations is less satisfactory. This is owing in part to the more obscure nature of the phenomena; chiefly, however, to the fact of the fusion of the intellectual and the sensuous in all visual impressions. This last remark applies to colour as well as to form, the so-called harmonies of colour being largely the result of conscious comparison. The author,

though alluding to Helmholtz's great work on Physiological Optics, does not appear to have studied it as carefully as the same author's treatise on Sound. His account of the sensation of black (for there *is* a sensation present in the case) and of lustre might have been greatly improved by a closer study of Helmholtz.

After completing his sketch of the senses in their relation to æsthetic pleasure and art, Mr. Allen gives us short chapters on the intervention of the intellect in æsthetic pleasure, the mental or ideal pleasures, and the higher emotions. There is little to remark in these sections of the work. They are clear and interesting statements, but are too slight to be of any scientific value. Thus there is no adequate analysis of the pleasures of intellect, and no attempt to mark off those which are connected with the pursuit of truth and those which enter into the very essence of art. The element whose absence is most distinctly felt in this slight account of the more complex æsthetic pleasures is the co-operation of the social sentiments. Thus, while seeing that art takes its start in a play of the imaginative faculty which has no direct relation to the actualities of our personal life, Mr. Allen omits to notice the important circumstance that a large part of this ideal activity is effected through sympathy. So again the author just alludes to the anti-social feelings as being non-æsthetic, and thus appears to overlook the fact that in certain highly disguised forms (including laughter and possibly many varieties of the sublime) these emotions play a very important part in art.

Mr. Allen brings his volume to a close with two chapters on the imitative arts (painting and sculpture) and poetry. These are very slight and do not amount to a synthetic reconstruction of the arts. Good observations are now and again to be met with, as that sculpture owes its worth to the circumstance that the optical consciousness cannot easily be divided between attention to form and to colour. But why did not Mr. Allen generalise this observation, making it the psychological ground of all abstraction in art? We would add that the accounts of painting and poetry are for the greater part marked by clear insight and the absence of whimsical preferences, also by a sufficiently refined appreciation of some of the more complex effects of art. In conclusion, it may be said that Mr. Allen, even if wanting in the connoisseur's intimate knowledge of art, has a fresh and impartial taste for natural beauty, which, together with a wide acquaintance with human life (both apparently greatly promoted by travel), stands him in good stead in ascertaining and defining both the uniformities and the diversities of æsthetic feeling.

James Sully.

A Discourse on Truth. By Richard Shute, M.A., Senior Student and Tutor of Christ Church, Oxford. H. S. King & Co., London. 1877.

The author of this clever and interesting book is one of those benevolent people who profess to write for "the plain man," and like to

tell him that he is a much better judge in matters of philosophy than "the philosophers". The "plain man" in the present case is addressed in archaic English, somewhat in the style of Locke, and the quaint forms of expression are very well sustained, as long as he is remembered; but he is apt to be forgotten, and then the author argues and writes just like a "philosopher" himself. The book is not without significance, considering from what quarter it comes. Mr. Shute holds with Hume in philosophy—not exactly to all intents and purposes, for there are here and there suggestions that it is in the interest of faith that he writes; still a thoroughgoing philosophical sceptic he is or seeks to be, adding only to Hume's view of the mind's intellectual action the definite conception, evolved in the later growth of science, that all progress consists in gradual adaptation to [natural] environment. Otherwise he appears to have no fault to find with Hume's view of the genesis of knowledge, provided the mind is supposed to acquire not only "ideas" of single sensations or emotions, but also ideas representing relations between sensations or groups of sensations; and Locke's psychological language is throughout perfectly sufficient for him. But he is not in like manner satisfied with some later developments of experientialist doctrine, especially Mill's theory of Syllogism and view of Causation as the basis of Induction, and one of the main objects of the book seems to be the exposure of Mill's errors on these and other points of logical theory.

Truth, according to Mr. Shute, means a "statement which will raise in the mind of the hearer thoughts or ideas like to those of the speaker when those latter ideas exactly represent the past experience of himself or some one else". This is a definition which will somewhat puzzle the "plain man" without being sufficient for the purposes of a full philosophical discussion, but no objection need be offered to it as indicating that aspect of the subject which is to be the matter of Mr. Shute's inquiry. More particularly, as he goes on to say, he will occupy himself with the two questions: (1) how far it is possible to communicate truly the results of ordinary experience, and (2) how far scientific truth is attainable regarding nature.

The first question is answered in two chapters entitled Definition and True Propositions. Language is held to be fully equal to the purposes of definition—when it is a single object, pictured by the mind, that is the subject of communication between speaker and hearer. Even here, however, we limit ourselves to describing the object (in most cases) only as it is *seen*. There is also, Mr. Shute thinks, a proper definition of certain lowest classes which, after Mill, he calls Natural Kinds, but which he understands in a sense peculiar to himself, namely, that they are picturable, although general. Gordon Setter or Retriever is such a natural kind; he is not so sure about Dog; he is quite sure that Animal and Quadruped are not picturable, and hence that they are artificial. Being not picturable, these cannot be defined, and the class-names can only serve to evoke a mental enumeration of the (true) kinds held together by them. Apparently the reason why Mr. Shute regards Animal as not picturable has nothing to do with its generality,

but is simply that the word has lost its first meaning of *breathing:* it has, therefore, he seems to think, in being more extensively applied, come to have no definite meaning at all. In the case of Quadruped, the reason is that we naturally picture legs only as attached to a body, and can have no proper picture of legs detached. The whole view is cleverly worked out and set forth with much spirit, the only objection being that it is radically unsound. In reality it is just as impossible to picture Retriever (that is not *a* retriever) as to picture Animal. It is just as easy to picture *an* animal as to picture *a* retriever. It is just as possible to put into words the meaning (whatever it may be) of Animal, fixed for the time being, as to give such a definition of Skye Terrier as the reader will find at p. 70: nay, it is possible, where the concept is so very general, to make a much simpler and less indefinite statement than that. Picturableness has nothing to do with the matter. It is only the individual object that is picturable, and even this only at a particular time and in a particular place. Language, though it may be and is very conveniently applied to individual objects, cannot be supposed to have arisen for purposes of communication about individual objects which can be pointed at when present and indicated without words when absent. It is just that which cannot be pictured, because it is general, that needs to be named. "The logicians" (p. 45) are right, and not Mr. Shute.

Propositions that are real or synthetic cannot, Mr. Shute continues, be made as true (in his sense) as Definitions, yet they may be rendered fairly accurate. If it be only understood that a Universal Proposition can represent no more than uncontradicted experience, it is, he thinks, in general possible to judge what amount of experience it actually represents to the speaker, and thus the hearer will not be led astray as to the degree of rapidity with which the passage should be made in thought from the subject to the predicate. The Particular Proposition, introduced by 'Some' meaning "contradicted experience" is indeed in a worse case, but its defect might be remedied if 'Some' were regularly understood (in spite of the "logicians") as meaning less than half or a balance of experience on one side, as 'Most' is regularly understood to mean more than half or a balance of experience on the other side. And even that form of proposition which "logicians have branded with the terrific epithet 'Indesignate'" and thrown away, is of use when we are speaking with sufficient experience of the attributes of some Natural Kind, and wish to refresh another person's memory whose experience has been similar. It is again all very cleverly and even instructively argued, but also again Mr. Shute quite misses the mark. The logicians are just as well aware as he can be that merely "uncontradicted experience" may have a very different value in different circumstances, and they accordingly mark such experience when put into propositions with the prefix 'Some' (in the strict sense of 'Not-none') to indicate that these are not to be *distributively* applied except at the peril of the speaker. "Contradicted experience" they express by 'Some—not' (equal to 'Not-all'), and they keep the Universal Proposition for the ideal cases, perfectly defi-

nite as far as thinking goes, of "absolute certainty"; while they discount the Indesignate Proposition, because it clearly may mean anything. No other use of the marks 'All' and 'Some,' it is plain even from Mr. Shute's observations, can claim to be definite, and the logicians deserve anything but ridicule for their attempt—on the whole a very successful one—to establish some kind of fixed rule by which to test the looseness of common expressions. Mr. Shute's criticisms come simply to this, that no scientific logic is possible or desirable.

In passing to consider his second topic—the discovery of true laws of nature, which with others he takes to mean the establishment of causal connections among phenomena, Mr. Shute distinguishes two questions: (1) What *is* the relation of cause and effect? (2) What notion of the relation do we ordinarily form? This is very well done. It is one thing to inquire how we naturally come to form or commonly understand any notion; and another, to determine what is its strict philosophical intent. As regards cause and effect, the distinction has not been sufficiently kept in view, for instance, by Mill in the controversial part of his chapter on the Law of Causation, or, as Mr. Shute at some length shows, by Hume. His own view is that the ordinary notion of Cause involves the notions of will, effort and change, and he connects this in its origin with the animistic habit of thought in early peoples. Such an interpretation of Cause has not seldom been expressed before, but generally by those who allowed no other, and either extended it to cover the cases of causal relation established by science, or denied that any phenomenon could be called the *cause* of another. Mr. Shute, on the other hand, has no difficulty in speaking of phenomenal signs as causes, and contends that in strictness (however it be with common usage) there is and can be no other meaning of causation in nature. A cause is that phenomenon which the mind selects as a sign of the coming of that other phenomenon which it calls an effect, and an effect differs from an attribute of a thing only as it is conceived to remain after removal of the cause, while an attribute does not remain after removal of the thing; the difference being originally suggested to the mind by the circumstance that there are some phenomena (attributes) which follow other phenomena only after some actions of ours, whereas other sequences of phenomena occur quite independently of any motion of ours. Upon this he labours specially to impress that it depends upon the mind's selection which of all the innumerable antecedents of a phenomenon shall be taken as its sign or cause, the choice being determined with a view to the preservation or convenience of human life; and then in a chapter on Induction, devoted to showing the artifices to which the mind may be driven before it can establish a conjunction that will hold amid all the variety of experience, he comes finally to the conclusion that "the chief function of Induction is the furnishing of formulas for communication to others not exactly of beliefs but of tendencies to believe when the occasion presents itself".

With the exposition in these chapters, which undoubtedly contain

much that well deserves the attention of those who aim at being consistent experientialists, controversy goes hand in hand. Mr. Shute has great fault to find with Mill's notion of Cause, would wholly reject the assumption of Uniformity of Nature as the basis of inductive inference, and protests warmly against the notion that by way of induction anything like absolutely certain knowledge is attainable. The line of argument is original, but similar objections have been urged before, by Mr. Jevons and others. I cannot attach much importance to them. The candid reader of Mill will hardly charge him with making knowledge too certain, even though he does maintain that some knowledge is much less uncertain than other. As to Uniformity of Nature, Mr. Shute seems to think the principle has no meaning, because some event, thought at one time to depend upon particular conditions, may afterwards be found to depend really on other conditions that were unnoticed before, or because the whole experience of one moment can never be exactly reproduced at any other. And though it is undoubtedly true that, in the search for the cause of any phenomenon appearing in great variety of circumstances, the inquirer is thrown farther and farther back upon the less obvious attributes of things, yet any circumstance that is ultimately selected in all as the true sign of the phenomenon is none the less such an antecedent (or aggregate of conditions) as corresponds with Mill's definition of cause.

It is in the next chapter, however, that the polemic against Mill reaches its height. Syllogism, according to Mr. Shute, though it is a meaningless and trivial process when used to explicate propositions about Natural Kinds (like 'Apples have pips'), may really convey knowledge to the hearer when, from a statement about an artificial class like 'Mammals have lungs,' it ends by ascribing lungs to whales; and it even may add positively to the knowledge of the race in the extended form of Deduction, when, by the interposition of a number of mean terms, two ideas become conjoined which no mind ever thought of in conjunction before. Upon this Mill is charged with making no account of Deduction, because he denies that the conclusion of a syllogism is anything but an explication of the major premiss, and asserts that its real ground is to be sought in that experience from which the major itself was inductively inferred. But this is really at bottom nothing but what is maintained by Mr. Shute himself, and in his polemical ardour he strangely overlooks the fact that Mill, in his chapter on 'Trains of Reasoning and Deductive Sciences,' asserts all and more than all that he himself urges as to the value of protracted Deduction for real science. Nor, as touching the single syllogism, does Mill's disregard of the distinction between natural and artificial propositions, as Mr. Shute calls them, matter nearly as much as he supposes: if whales (being mammals) have not lungs, it is just as impossible in strictness to say that all mammals have them, as to say that all apples have pips, if a particular one has none. The controversial spirit is apt to blind Mr. Shute, whenever Mill is in the case. How differently he is disposed to treat others of

his philosophical allies, comes out very amusingly at the end of the chapter. Mill's observations are all very poor, but Locke did make an objection "the most serious and weighty that has ever been raised against the syllogism," namely, that it does not represent the natural order of thought when it says Man-Animal, Negro-Man, Negro-Animal, instead of Negro-Man-Animal. Mr. Shute gravely explains that the objection does not hold against Aristotle's form of syllogism, which did place the middle term right between the major and minor in the premisses, and so it falls to the ground. But supposing Aristotle had not happened to read propositions from the predicate to the subject, does Mr. Shute seriously mean that Locke's objection is worth one straw against a scientific theory of reasoning such as Logic professes to be?

In his next chapter, 'On the Matter of Thought,' Mr. Shute argues that as men rise above their primitive state representative images give place more and more to abstract thought embodied in general language. So put, the idea is not very novel, but Mr. Shute, by speaking of representative images as picture-thought and laying special stress on the words used in symbolic thinking, presents it with a certain freshness, and makes a number of interesting remarks by the way. He clearly thinks his view more novel than it is, and he works up towards a conclusion which he fears may seem almost too daring. It is that there actually may come a time when the visible symbols of language will get directly associated with thoughts to the exclusion of the present medium of audible ones. There is indeed no reason why such a change in the conditions of thinking should not take place, if it were an affair of the mere senses of hearing and sight; but Mr. Shute seems to have overlooked an important part of the case. How would men communicate under the new circumstances? As long as they use speech—and it would be difficult to say what muscular act could be substituted with advantage—the audible symbol can hardly be dropped out altogether, though of course ordinary visible symbols may go on becoming more and more abstract, in accordance with the needs of growing experience, whether ordinary or scientific.

The remaining chapter (not counting a general epilogue) declares Necessary Truth to be a self-contradictory notion, as it doubtless may be maintained to be from Mr. Shute's point of view, when understood of synthetic propositions. After a somewhat airy treatment of the Laws of Thought, the author confines himself to the explanation of truths of Number, being apparently satisfied with the common experientialist view of geometrical axioms. Concerning Number, he professes to be able, without deserting his fundamental position, to maintain, in a sense not remote from Mansel's thought, that it is no quality of external things, but depends ultimately on an activity of the mind. It may be so; but it is difficult then to see how Mr. Shute can rest contented with the "sensationalist" view of the foundations of geometry, and, if he is not to be driven from the experientialist's position altogether, he must needs make a much more

serious study of the conditions of actual psychological experience than his present work contains any trace of.

EDITOR.

Die Phantasie als Grundprincip des Weltprocesses. Von J. FROHSCHAMMER, Professor der Philosophie in München. München: Ackermann. 1877.

The aim of Professor Frohschammer in this, his most recent, work is twofold—scientific or psychological and philosophical. So far as the work is *psychological* it deals with the faculty of imagination or "phantasy," its functions in relation to the intellect, will, and emotions, and altogether, the part it plays in man's individual subjective life. So far as it is *philosophical*, it seeks first to show that the plastic principle in nature, whose products are seen in the innumerable varieties of vegetable and animal organisation, so closely resembles the subjective phantasy in its modes of operation that it may be regarded as objective phantasy; and *secondly*, to trace out the process by which this objective phantasy, acting on inorganic matter and force, has evolved the various forms of organic existence up to and including man with his powers of sensation, perception, reasoning, self-consciousness, emotions and will. He leaves untouched the question of the origin of the world and its immanent principle of phantasy. Just as Kant and Laplace assumed the existence of matter, its forces and laws in the construction of their mechanical hypothesis of the origin of the celestial system, so the author assumes the existence of the material world in the state in which geology tells us it must have been at the beginning, leaving the problem of the whence of the phantasy and that which it moulds to metaphysics.

Both in the general introduction to his inquiry and in a critical survey of the fundamental principles of the chief philosophies of ancient and modern times, the author tries to show that there have been decided tendencies towards a view of the imagination similar to his own. In the νοῦς of Anaxagoras, the archetypal ideas of Plato, the νοῦς ποιητικός of Aristotle, the λόγοι σπερματικοί of the Stoics, the λόγος of Philo, the νοῦς and the λόγοι of the Neo-Platonists, the emanative principle of Scotus Erigena, the monads of Leibnitz, the productive imagination of Kant, Fichte and Schelling and the will of Schopenhauer, he finds *points d'appui* for his own view. At first sight his phantasy would seem to be most akin to the *Wille* of Schopenhauer, but he objects that it is blind, thought-less, idea-less and as such could never give rise to the thoughts and ideas, consciousness and reason, whose development from the phantasy he considers it possible to trace. "The Unconscious" of v. Hartmann will also suggest itself to some; but our author urges that though it is quite true that his "objective phantasy" is primarily unconscious, to identify it with "The Unconscious," is to identify a positive with a negative, a something we can recognise with a nothing—with an Unknown.

The discussion is distributed into three books. The first book is occupied with the specifically psychological inquiries already referred to and with the identification of the subjective phantasy with the objective teleologico-plastic power working in nature.

Starting from the common notion of the imagination and confessing it to be too frequently a source of delusions—delusions, however, due mainly to the circumstances in which humanity is placed and to the gradualness of its development, especially in the childhood of individuals and nations, he points out how the phantasy aids us in arriving at truth by enabling the soul to form an image of the object of thought. Whether it be, as he adds, "the properly active organ in the realisation of truth," may be doubted. Further he regards memory and recollection as rooted in the phantasy and shows finally how dependent on it is all that is true in the ideals of morality, science, art and even religious faith. He then goes on to deal with what to him is the cardinal question, namely, whether this important faculty of the soul is original or derived—whether it have an independent existence first in mind and then in nature or whether it be the product of some other power or powers.

In proof of its being an original power of the *mind*, he directs attention to the facts that whilst the understanding is essentially analytical, the phantasy is synthetical; that the reason as "the faculty of higher truth" can only supply material for the plastic activity of the phantasy after the manner of the sensuous organs; that the emotional nature is formless, pictureless, whereas the phantasy works by imagining forth; and, finally, that the will *per se* is an undeterminate motive power whose direction depends on other faculties.

In support of its independent existence in *nature*, he maintains that the mode of action of the phantasy differs so completely from that of the forces of the inorganic world, whether mechanical or chemical, that it cannot be supposed to owe its origin to them: whilst, on the contrary, there is the closest affinity between its action, in working up the material supplied by the senses and the reason into forms and images for consciousness, and the action of the organific principle, in working up the matter and forces of inorganic nature into the manifold forms of the vegetable and animal kingdom. The main difference between the two is, that whilst the latter works objectively, *realiter*, though unconsciously, the former works subjectively, *idealiter*, consciously.

The most important questions discussed in the second book—and to these we must confine ourselves—are, the rise of the organic, the development of sensation, and the first dawning of the properly psychical.

What has he to tell us about that *crux*, the genesis of the organic? Opposing the theory of *generatio aequivoca* on the one hand and its supposed alternative supernatural creation on the other, he conceives it to have originated in the action of a specific principle, intermediate between the inorganic and the organic, whose existence we are required to assume by facts which neither physics nor chemistry can explain—which principle is the "objective phantasy," to which refer-

ence has already been made. This principle, he thinks, must have had its vehicle or substratum, and an environment supplying the conditions of its productive activity; but when we eagerly ask after the "primal *modus operandi* of this universal plastic principle or objective world-phantasy," we are told—"it is impossible exactly to determine it". So that all the author does is to posit a something which is neither inorganic nor organic by way of bridging over the gulf—a something which he at first, as nearly as possible, if not quite, identifies with the organic member of the antithesis! Indications of the presence and action of this principle he discovers even in the sphere of the inorganic, *e.g.*, in the peculiar combinations of chemistry, which seem to imply more than the mere collocation of the atoms affected; and in crystallisation, where a power is at work that individualises and constitutes wholes. Analogy leads to the conclusion that its first products were of the very simplest kind; but that as the phantasy itself grew through its own activity, and as the environment acquired fuller congruity, higher and more complicated organisms were evolved. It seems, however, most probable to him that these simple organisms arose in different places at the same time; and that instead of the boundless variety of species having been evolved from one primitive cell, as the school of Darwin maintains, various species of primitive organisms arose contemporaneously in different places, or even in one and the same place. Nay more, he inclines strongly to the opinion that most of the species of plants and animals came into existence at the very commencement, though they owe their individual peculiarities to the influence of their environment, and especially to the struggle for existence.

With regard to the genesis of sensation, we shall do best to quote the author's own words—words, we may remark, which seem to us to lack his usual clearness. "As the rise of inwardness *(Innerlichkeit)* or of the psychical nature of sensation cannot be explained from without, it must needs be shown to arise from within, namely, out of an immanent potence and tendency which actualises and unfolds itself by means of action on, and reaction from, external surroundings. By the aid of the power of organic formation, the psychical power of imagination is evolved in the form, first, of the capability of perceiving the sensuous corporeality and the affections and states which are congruous or opposed to its idea. Between this inward, psychical, subjective side of the body (*i.e.*, the soul) and the body proper, the sensible nerves are the mediatory links." "When the objective phantasy has unfolded its essential nature up to a certain point in the development of a determinate kind of sensuous organisation, it arrives at or gains the inwardness of its own nature, and accordingly becomes psychical and subjective in its intercourse, on the one hand, with nature, on the other, with its own powers and needs." This seems to us to be rather a roundabout way of telling us that the genesis took place, than an elucidation of the actual manner of it. The author has grappled with what is perhaps to man now an insoluble problem—and with the usual result.

As far as men are concerned he thinks they may have arisen in two ways. Either one or several of the original organisms, or even the "primal organism itself," had the inherent tendency to develop into man, and the lower forms of organic life thrown off, as it were, in the course of the progress upwards, were subordinate and preparatory to the final outcome as the leaves of a plant are subordinate to the fruit; or some one or several primitive organisms were exclusively endowed with the tendency in question.

In tracing out the dawn of the psychical or, as it is termed, the subjective phantasy, he lays stress on the state of being awake as alternating with the state of sleep, which he characterises as "a great step towards the attainment of subjective *Geistigkeit*". This waking state he describes as "pure form, and, as it were, a shining of an inner, psychical sort". "Consciousness," again, "is the light which shines forth out of the waking state."

We must now, however, pass on to the third book, which aims at showing how the various so-called faculties of the human mind were developed out of the subjective phantasy, until this same phantasy differentiated itself into a distinct faculty alongside of the rest—distinct especially from the understanding. The psychological discussions of the second book are mainly animal; those of the third book are distinctively anthropological.

A point on which the author lays great stress, in this part of his inquiry, is what he terms the "psychical organism". As the objective phantasy, whilst still purely objective, forms for itself a corporeal organisation; so that same objective phantasy after having developed into subjective phantasy forms for itself a psychical organisation, distinct from, elevated above, and yet most closely interwoven with and conditioned by the corporeal organisation. In it the physical laws and forms of the corporeal organisation are transfigured into logical laws and categories. This higher organism is the sole direct object of self-consciousness, as distinguished from consciousness—which explains, he thinks, why man has so little direct knowledge of his own corporeal organism.

We should have liked to consider this idea of the psychical organism—which is one of considerable importance—more at length; further to give an account of the mode in which the development of the understanding and will in particular is worked out; and to criticise various points, as *e.g.*, the differentiation of the subjective phantasy into a separate faculty co-ordinate with other differentiations of itself; but we must hasten on to describe the general impression made by the entire work.

The author's style is in general unusually clear, direct, and interesting; but this work bears marks of haste, both of a formal and material kind. We refer, for example, to the frequent recurrence of clauses of sentences punctuated as complete sentences; to the numerous anticipatory expositions of points whose full discussion is given in a later connection; to the constant recapitulations of former arguments; and to the habit of turning aside for attacks on theology and the Church.

With respect to the substance of the treatise—whilst we cheerfully allow that there are numerous subtle observations and valuable hints anent the various problems passed in review, we cannot say that he has succeeded, to our satisfaction, in the task undertaken, namely, in bridging over the gulfs which for human thought still yawn between the various stages in the great process of mundane development. We are still unable to discover the links connecting the inorganic with the organic, the vegetable with the animal, life with sensation, sensation with self-consciousness. In each case he seems to conduct us first to the one edge of the gulf and then to the other, and we strain our eyes to see across, and put forth every effort to effect a communication between the opposing sides, but in vain. The problems to be solved are frequently put more exactly than by other writers—which is a great merit—but they are not solved.

With the effort to work out a theory of inward as distinguished from outward evolution, and to get at some principle immanent in, though distinct from, the inorganic bases of the cosmos, through whose action on those inorganic bases the marvellous cosmic development has been effected, according to laws congruous to the several stages in the inner growth of the principle—with this effort we have the greatest sympathy. Therefore, although we doubt the appropriateness of the designation "Phantasy" given by Professor Frohschammer to this principle, we thank him for his work, and commend it to the careful attention of all who are interested in the attainment of a true philosophy of nature.

D. W. Simon.

VIII.—NOTES.

Some Questionable Propositions in Ferrier's 'Institutes'.—The questionable propositions of some men are more worthy of thoughtful consideration than the most unquestionable deliverances of some others. Ferrier's doubtful utterances on philosophic matters belong to the former class. Had I been less conscious than I am of the epoch-marking significance of the *Institutes*—of the remarkable originality of the book, of its rare philosophic insight, its fine dialectical skill, its eloquence, its manly robust vigour, and its moral courage in driving unpalatable truths to their last issues—I should have had some hesitation in making the following animadversions on several disputable points that turn up in the course of his argumentation. But he has so remorselessly laid bare, and has handled with such a fierce kind of philosophic horse-play, the contradictions involved in his opponents' Counter-Propositions, that an attempt, much more gently made, to expose the fallacies lurking in several of his own Propositions pitted against these will scarcely be considered ungenerous or unjust. He has triumphantly made good his master-thesis—the indissoluble relation of subject and object in all cognition and in all existence—and has thrown himself with overwhelming force on the

incoherencies and half-truths (which, in philosophy at all events, are whole lies) resulting from the neglect of this great fact; but it does not seem to me that his attempts to fix the *nature of the object* have been equally successful. It is the propositions bearing on this last question which shall occupy us here for a few pages.

In the demonstration of Proposition VII., Ferrier says: "It is not a necessary truth of reason that matter must be known whenever anything at all is known; in other words, cognitions in which no material element is apprehended, are, if not actual, at any rate possible and conceivable." This I deny out and out. Is it not the very thesis of his work from the first page to the last, that all cognition involves an ego and a non-ego—a knower and a known? and is it not "a necessary truth of reason" that the non-ego must be *outside* the ego, the knower outside the known? If outside, the non-ego must be *in space*, if in space it must be *extended*, and extension is one of the qualities of matter—as is allowed on all hands by theorists of the most widely different schools of thought. This outsideness of the non-ego, the known, (involving the fact of extension), cannot be got rid of even in thought: every actual object of knowledge *has* extension, and no object can be conceived as existing without it. Extension is one with the conception of outside existence: the fact of outside existence is *given* in every cognition actual or conceivable; it *is*, therefore, "a necessary truth of reason that matter must be known whenever anything at all is known".

In the Proposition itself, Ferrier says that while the ego (or mind) is known as the element common to all cognitions, matter is known as the element peculiar to some cognitions, "as a portion of the changeable, contingent, and particular part of our cognitions". Now, it is quite true that no particular *portion* or form of matter that can be named is necessary to the constitution of an elementary cognition; but that by no means implies that nothing whatever material is thus necessary. The forms of matter are inexhaustible, and, being inexhaustible, we cannot affirm that any one of these rather than any other is necessary to the existence of a cognition in its simplest state; but that *some* form or other is necessary follows from what has been advanced above. Only let us try to strip our consciousness of *all* material objects, and we shall see where we land ourselves. We rid our minds of this form, and that, and the other—and so on indefinitely: but do we ever come to an absolute unity face to face with nothing, standing in isolated bareness side by side with non-existence? This process of abstracting material objects one by one cannot be, or be conceived to be, carried to any such length; *some* matter persistently remains as a necessary element in every simplest act of cognition—and this being so, matter is no more a "changeable, contingent, and particular part of our cognitions" than mind itself. Ferrier gets his permanent essential element in all cognition and existence by universalising the subjective side of all knowledge and being, and giving it forth as the Conscious One. He is equally bound to universalise the objective side (which is in no sense more contingent or less essential

than the other), and give it forth as the Thing Known. The synthesis of these two, however simple the form of it, constitutes the only true and real Individual Existence. Instead of calling mind the universal element, and matter the particular element, it would have been better to speak of both as two universal elements eternally living and working together in one unbroken synthesis of particular relations. And instead of using the word ego as synonymous with the subjective element, it would have been better to call this element Mind, the objective element Matter, and the real existent formed of both, the Ego or Individual. But to say that the only Individual known or knowable is mind *and* matter *always and everywhere* would have committed Ferrier to a conception of matter about the propriety of which he does not seem to have been quite clear, and to a distinct acknowledgment of the self-contradiction involved in giving mind its own acts or states *as objects different from itself*—a contradiction which he seems never to have seen clearly, as he did see the absurdities to which it led under the management of the Scotch Representationists.

What has been here maintained of matter viewed as the extended holds equally of matter regarded under any of its other universal aspects. The consciousness of something possessing (more or less markedly) the invariable characteristics of what all have agreed to call matter, is present in every cognitive act. The mind, in knowing, always knows some *thing*—using that word in no hazy abstract sense, but as indicating a firm reality based on physical properties always felt and frequently demonstrable

From these considerations it follows, in strict logical sequence, that the mind or subject must also be regarded as extended. For if subject and object are in constant contact, as they must be if the one is eternally apprehending the other, and if one of the two possesses extension (as has been demonstrated), the other can be no mere mathematical point or absolute unit, but a concrete reality running along, so to speak, all the way with its extended other-half. It lies with those to whom this notion of an extended mind is repugnant to prove that our conception of the mind *is* that of an unextended something or other, and not rather that of a continuous stream of consciousnesses, all possessing the one unvarying quality of feeling, but taking innumerable and widely different and ever-varying forms; a composite unity of countless members, each apprehending the others, and all together constituting one complex conscious organism. In this way Proposition VIII. is demolished—the proposition which announces that "the ego cannot be known to be material," because "there is a necessary law of reason which prevents it from being apprehended by the senses". In being known at all it must be known as extended, and therefore material thus far at any rate; and although the ego is certainly not apprehended by any *one* of the senses it assuredly *is* given through all of them put together. The fact is so, and it is absurd to pit a necessary law of reason against a universal fact.

But while charging Ferrier with having rid the mind or ego of

objects altogether in ridding it of all matter whatever, I am quite aware of the form his reply would have assumed. He would have answered that he did nothing of the kind; the mind by the very terms of knowledge must needs know something—necessarily requires an object—but not necessarily a material object: its object may be thoughts, feelings, its own modifications or self-determinations. And this retort naturally leads to a brief consideration of the fallacy involved in an important clause of Proposition IX. The ego *per se*—"that is, in a purely undeterminate state, or separated from all things, and divested of all thoughts—is no possible object of cognition". Of an ego in a purely undeterminate state—*i.e.*, neither here nor there, neither in this case nor in that—we can certainly not think; we know nothing of the kind and can conceive nothing of the kind. But can we, on the other hand, conceive an ego separated from all things, and *only in union with thoughts?* Ferrier seems to say as much every now and then throughout his work, and he implies it distinctly here. But is not this tantamount to adopting that representative theory which he elsewhere so vigorously assails? If the ego can *ever* be conscious *only* of thoughts, of its own modifications simply (and not also of the modifying objects), may it not be held that it is always so, and that our knowledge of an external material world is therefore indirect and inferential only? Moreover, what are thoughts and feelings but the modified subject? They are not modifications *of* the mind, they *are* the mind modified—they are not something distinct from the mind, in no sense are they its object, they are the mind itself. By the mind *per se* must be understood, therefore, the mind separated from all *things*, and this (as has been shown in what precedes) is no possible object of cognition.

This admission that the mind may have as its only object its own conscious states, if taken as expressing all that it seems to say, must be held as shattering the whole system of Knowledge and Being which Ferrier had laboured so hard to build up. His system reposes upon the ground of the indissoluble union of two elements in every cognition and in all existence. The Individual *is* these two in constant combination, whether regarded as knowing or being: mind everlastingly face to face with its object, and the two together constituting the only true and complete ego. But once grant that thoughts and feelings are anything more than states of the subject; once give them a real existence outside the mind itself (as you must, if you make them its object); and instead of a compound unity of two-in-one, which is the proposition Ferrier took in hand to demonstrate, you get a real trinity of mind, mental modifications, things. Once admit that the mind is something which *has* thoughts, feelings, powers, &c., instead of *being* these very thoughts, feelings, powers, &c., generalised and universalised on the strength of a characteristic common to them all and not conceivably separable from any of them, and endless contradictions will be the result. This threefold division of distinct elements being once posited, nothing can save us from a repetition of all Dr. Reid's honest confusions, Sir William Hamilton's painful

attempts to render these less chaotic, systems of Idealism without number, and (which chiefly concerns us here) the entire overthrow of those very Institutes which were set up to scatter all these mystifications, and to establish order and necessary law in the place which muddlement and false refinements had usurped. Mind-conscious-of-matter, matter-apprehended-by-mind, is the ultimate in knowledge and the ultimate in existence : with this for a fundamental proposition it is possible to rear a philosophic structure which will really cover the ground which other systems have only dotted over with disconnected masses of incoherent materials. But Ferrier seems either not to have clearly seen, or to have been unwilling to admit, that we can conceive of no existence but one which is material on the one side and mental on the other—and this always and everywhere. But since his system involves the demonstration of our equal inability to conceive of matter *minus* mind, there need be no hesitation in facing the fact that what we always do know, and what alone we can conceive, is the compound unity mind-matter, matter-mind. Materialism with its blackness of darkness for ever, on the one hand, and Idealism with its muddled moonshine, on the other, are equally set aside by this system which embraces all that is true in either and rejects all that is false in both. This, I believe, is what Ferrier really held, though he does not always seem to say so, and at times seems to say quite the reverse.

It is thoroughly in keeping with this alleged imperfect grasp of his own First Principle that we should find the author, in Proposition X., denying very strongly that "the senses by themselves" are faculties of cognition. What does he mean by "the senses by themselves"? I hold that by the senses must be understood those bodily organs, both special and general, which take cognisance of the external world and of one another. Is it conceivable that such cognisance can be taken *by what can give no knowledge?* What is cognisance but knowledge? and would Ferrier have denied that the ear takes cognisance of sounds, the eye of coloured surfaces, and so forth? If he would have denied this, his denial must have been based upon an unwarranted limitation of the work of the senses—a limitation not borne out but flatly contradicted by a thorough-going analysis of the activities of those organs, which, being organs of *apprehension* (one and all of them), *must* be faculties of cognition.

This proposition that the senses are not faculties of cognition, really resolves itself into the assertion that feeling is not knowledge. This cannot be admitted. The legitimacy, the necessity even, of *distinguishing* between these two words and the ideas they convey may be allowed without granting the soundness of any such extreme deliverance as the above. It might as well be maintained that feeling is not consciousness. Feeling is consciousness with more of an inward look —its object is some part of the bodily organism *rather than* anything external; but there is no element in the one process which does not enter into the other. So with feeling and knowledge : things are felt, truths are known—but there is always this common element in both, the fact of *apprehension.* There is always a subject in contact with

an object. You must apprehend your object before you can do anything else with it, you must seize your truth before you can look all round it; but the very barest apprehension is knowledge as far as it goes, and this last, I would say, is the knowledge involved in all feeling, even the simplest. Elaborations and combinations may come after; but the very first *touch* gives knowledge in its way, quite as authentic as any that can result from the complex mental processes to which most objects are forthwith subjected. If Ferrier had seen distinctly that matter and mind in everlasting union is the only known or knowable entity he would not have denied, as he does in this proposition, that the senses are faculties of cognition. He would have perceived that these organs, in virtue of the subjective element indissolubly knit to them, *must* know; the very conception of subjectivity involving that of consciousness, which again involves that of knowledge.

If Ferrier, speaking again and again of the senses *per se* as faculties of *non-sense*, means by this that the senses considered apart from every intelligent subject are faculties of non-sense, his position will be readily granted. The necessary duality of object and subject—thing felt and feeler—involves that. But then it may be legitimately held that the senses never do present themselves in consciousness quite apart from an intelligent subject; that in feeling there is always a feeling of something and a knowledge that this feeling *is*. To feel and to know that I feel are one indivisible act. Since, therefore, the senses always do give knowledge according to their kind, they must be regarded as cognitive faculties in their way. Ferrier seems to forget, or not to perceive, that those who claim for the senses cognitive power more or less, never mean by the word senses *mere* matter, regarded in itself, apart from all subjectivity; they always mean living matter, organised and possessed of all those qualities which enable it to perceive (I use the word advisedly) the objects presented to it. He may hold, if he please, that his opponents have no right to make the senses signify so much; I myself am convinced that in making them signify less we strip them of a portion of their contents invariably given in every conscious act. Ferrier's own system, indeed, from first to last, turns upon the alleged indissoluble relation of subject and object in every known or conceivable existence. Since, then, organs of sense do exist, and since it is impossible to think of them as existing quite apart from a subject, why should they be declared faculties of non-sense? Ferrier's opponents say the senses are cognitive after their fashion—Ferrier himself says the senses are indissolubly knit to a subject; what is the difference between these two assertions? To me it seems clear there is none. Those who maintain that the senses are cognitive do, in point of fact, embrace the whole of Ferrier's system which hangs consistently together; only rejecting those illogical and self-contradictory two or three propositions which, if taken exactly as they stand, bring quite to the ground all the rest of the structure.

It will not require a long paragraph to expose the weakness of Proposition XXII., which is only the fallacious counterpart of those

already commented on, especially of Props. VII. and IX. Here it is contended that knowledge by the senses is not an essential of *all* intelligence but only of ours. Any one who admits the truth of Props. VII. and IX. can scarcely refuse to endorse Prop. XXII. If matter is only a contingent element in cognition and existence, if mind may have as objects its own modifications only—thoughts and feelings alone; then it follows of necessity that cognition may very well take place without the aid of the senses, either ours or any others akin to them. If there can be immaterial objects at all, these may be, without contradiction, allowed to be knowable without the help of any matter whatever. If immaterial objects *are*, they may certainly be known immaterially. But the knowledge and existence of such has been disproved in the earlier pages of this paper; it is not, therefore, necessary to enlarge upon the untenableness of the proposition set up here, which obviously stands or falls with the other two. Knowledge by our *special* senses—make them five, make them fifty—cannot be held to be the only possible mode of apprehension among all intelligences; but of knowledge otherwise than *through sense of some sort* we can form no conception whatever. Strip the word cognition as bare of material elements as you may, the idea of *apprehension* still persistently remains behind; and apprehension has no meaning unless it be regarded as a form of *touch*; and touch or contact, again, is without signification apart from sense-relations. Here, then, we have a sense-element as essential, universal, and unremovable even in thought, as any of the so-called faculties of pure cognition. If this be so, Prop. XXII. goes down beyond retrieval.

Ferrier repeatedly disclaims all intention to determine *what* the object in all cognition and existence necessarily is; but my charge is that he has attempted to determine what it is *not*, and has determined wrongly. Moreover, if a complete system of philosophy is to be based on his First Principle, this question of the positive nature of the object must not be left hanging in the air. With a question of such importance undecided the whole inquiry moves too much among mere abstractions; in dealing with the *elements* of all Knowledge and Being, knowledge and being themselves, in their concrete *reality*, are apt to escape us altogether. Had Ferrier, with characteristic vigour, resolved to settle this point in his own mind even—allowing that there were good reasons for not putting it prominently forward in the *Institutes*—we should scarcely have found him, at the very close of his work, speaking of such a gross absurdity as "a mind with some environment of states, some accompaniment either of thoughts or of things!" A mind *surrounded* with states! *accompanied* with thoughts! Could any phraseology have been chosen fitter to express utter nonsense? Yes; the author does express himself still more absurdly a few lines further down, where he defines the mind as "the One great Permanent and Immutable Constituent, amid all the fluctuating states by which it may be visited". If any reader doubted a little while ago whether or not Ferrier actually regarded the mind as different and truly separable from its own modifications, he can

surely doubt no longer—now that he has learned, from the metaphysician's own lips, that the mind is something which may be *visited by its own states*; not the sum-total of those states in continuous stream or steady co-existence, but something apart from them all, something to which they may form a real object. The integrity of Ferrier's whole system of philosophic thought depends upon the dispelling of this grossest of illusions. Grant this, and Representationism with all its confused rubbish is upon us once more like a flood. Abolish matter as a necessary element in all *possible* existence, and there will be no lack of philosophers starting up to show that it forms no real element in *actual* existence. For if the mind can think without thinking of any *thing* (in that strict hard sense in which the word is used by every one who has no pet theory to expound), it may well be maintained that its direct objects are always thoughts, and that it is only occasionally, or at second-hand, that the material world is apprehended at all. No philosophy of the outer world dealing with certainties—necessary and eternal truths—can ever be based on such a rickety foundation; but a surer ground may be discovered in the proposition that when we say Thought we mean the Mind face to face with some Thing.

ALEXANDER MAIN.

On Mr. Venn's Explanation of a Gambling Paradox.—Two players, A and B, toss for pennies. A has the option of continuing or stopping the game at any moment as it suits him. Has he, in consequence of this option, any advantage over B?

From one point of view it would seem that A *has* an advantage; for, as the game proceeds, the balance of gains must pass backwards and forwards from one side to the other, and if A makes up his mind to continue until he has won (for example) 10, the time must come when he will have an opportunity of carrying off his gains. On the other hand, it seems obvious *à priori* that no combination of fair bets can be unfair, and that A's option is of no value to him, inasmuch as at any point it is a matter of perfect indifference to him whether he risks another penny or not.

In order to examine the matter more closely, let us suppose that A has originally 1000 pennies, and that he proposes to continue the game until he has won 10, and then to leave off. Under these circumstances, it is clear that in no case can B lose more than 10, whereas A, if unlucky, may lose his whole stock before he has an opportunity of carrying off B's. The case is in fact exactly the same as if B had originally only 10 pennies, and the agreement were to continue the game until either A or B was ruined. The problem thus presented was solved long ago (see Todhunter's *History of Probabilities*, p. 62); and the result, as might have been expected, is that the odds are exactly 100 : 1 that B will be ruined. But it does not follow from this that the arrangement is in any degree advantageous for A; for, if A loses, he loses a sum one hundred times as great as that which he

gains from B in the other (and more probable) contingency. A like argument applies, however great the disproportion of capitals may be. If the sums risked, as well as the chances to which they are subjected, be taken into account, the compensation is complete.

Mr. Venn, however, is of opinion that these considerations do not meet the difficulty. With respect to the argument that A will always win if he goes on long enough, he says—"It may be replied that we have no right to assume that the fortune of the player (A) will hold out in this way, for he may be ruined before his turn of luck comes. This . . . is quite true, but does not explain the difficulty. We have only to suppose the men to be playing on credit to remove the objection. There is no reason whatever why any money should pass between them until the affair is finally settled. All such transactions, really, must be carried on to some extent on credit, unless there is to be the trouble of perpetual payments backwards and forwards; and it is therefore perfectly legitimate to suppose a state of things in which no enquiry is made as to the solvency of either of the parties until the crisis agreed upon has been reached."—(*Logic of Chance*, 2nd edition, ch. xiv., p. 371.) And again a little further on, "A man might safely, for instance, continue to lay an *even* bet that he would get the single prize in a lottery of a thousand tickets, provided he thus doubled, or more than doubled, his stake each time, and unlimited credit was given".—*Ibid.*, p. 373.

To me, on the contrary, it seems that the question is entirely altered by the introduction of indefinite credit. There is no object, of course, in insisting on perpetual payments, and a credit may properly be allowed to the extent of the *actual resources* of the parties; but the case is very different when insolvency is permitted. In order to make a comparison, let us suppose, in our previous example, that A has no fortune of his own but is allowed a credit of 1000. If he wins 10 from B without first losing 1000 himself, he retires a victor, and his actual poverty is not exposed. But how does the matter stand if the luck is against him, and he comes to the end of his credit before securing his prize? When called upon to pay at the termination of the transaction, he has no means of doing so, and thus B is defrauded of his 1000, which in the long run would otherwise compensate him for the more frequent losses of 10. The advantage which A possesses depends entirely, as it seems to me, on the credit which is allowed him, but to which he is not justly entitled, and is of exactly the same nature as that enjoyed by any man of straw, who is nevertheless allowed to trade. What would be thought of a beggar who proposed to toss Baron Rothschild for 1000 pound notes? and if the proposal were agreed to, would it be said that the beggar's advantage depended upon his power of arbitrarily calling for a stoppage when it suits him and refusing to permit it sooner, and not rather that the one-sided character of the agreement depended on the simple fact that one party could pay if he lost, while the other party could not?

RAYLEIGH.

Mr. Barratt on "The Suppression of Egoism".—Mr. Barratt's article on the "Suppression of Egoism" is based upon a fundamental misapprehension of the drift of my treatise. He appears to have overlooked the statement in my preface that "all the different methods developed in it were expounded and criticised from a neutral position, and as impartially as possible"; and also § 5 of my introductory chapter, in which my position and mode of treating the subject are further explained. For the reasons given in this latter passage, I avoided stating explicitly my own ethical view, or even suggesting it with any completeness: but I thought it would be pretty clear to the reader that it is not what Mr. Barratt controverts as the "Suppression of Egoism," but rather what, in No. V. of MIND, I attributed to Butler, describing it as "the Dualism of the Practical Reason". This view is stated most succinctly (in Butler's terminology, which is not exactly mine) in the following passage at the end of the Third Sermon on Human Nature: "Reasonable self-love and conscience are the two chief or superior principles in the nature of man: because an action may be suitable to this nature, though all other principles are violated; but becomes unsuitable if either of those are". I do not (I believe) differ substantially from Butler in my view of reasonable self-love, nor (theology apart) in my view of its relation to conscience, nor again do I differ from him in regarding conscience as essentially a function of the practical reason ("moral precepts" he says in the *Analogy*, p. ii. c. 8, "are precepts the reason of which we see"). My difference begins when we come to consider what among the precepts of conscience we really do see to be reasonable. Here my view may be briefly given by saying, that I identify a modification of Kantism with the missing rational basis of the ethical utilitarianism of Bentham, as expounded by J. S. Mill. I consider the fundamental formula of conscience to be that one ought not to prefer one's own good to the greater good of another: this (like Kant's Categorical Imperative) is a purely formal principle, and is evolved immediately out of the notion of 'good' or 'desirable,' if this notion is used absolutely; as it then must mean 'desirable from a universal point of view,' or 'what all rational beings, as such, ought to aim at realising'. The substantial difference between me and Mr. Barratt is that he rejects this notion, at least as applied to concrete results. On this point I confidently appeal to the common moral consciousness of mankind: (*e.g.*) it is certainly the common belief that the design of the Creator of the world is to realise Good: and in this belief the notion 'good' must be used absolutely. But I should admit Mr. Barratt's objection to the reasoning by which (see p. 360), I endeavour to exhibit the self-evidence of this formula, if that reasoning were intended—as Mr. Barratt has taken it—as a confutation of the principle of Rational Egoism. Since, however, it is manifest, at the close of the treatise, that I do not consider the principle of Rational Egoism to have been confuted, but only contradicted; and since I carefully explain, on p. 392, how in my view this confutation is avoided, I confess that I can hardly understand my critic's misunderstanding.

As regards the 'Physical Method' of ethics, it is enough to say that there cannot possibly be any such 'method' in the sense in which I use the term, *i.e.*, rational procedure for determining what ought to be done here and now. Ethical conclusions can only be logically reached by starting with ethical premisses: how the latter are got, it was no part of my plan to consider. I presume that even Mr. Barratt hardly means to maintain that practical principles can be in any sense proved by physical methods.

H. Sidgwick.

'*Cogito ergo sum.*'—Professor Bain thinks it right to say of Descartes' famous aphorism, "I am of opinion that we should cease endeavouring to extract sunbeams from that cucumber". I do not pretend to determine the exact meaning that this formula bore to the French philosopher, but that it admits of an important meaning being attached to it, I cannot for a moment doubt.

Instead of likening this formula to a cucumber, from which it is high time to give up futile attempts to extract sunbeams, I am constrained to liken it to the sunbeam *minus* which all must, for us, be an unknown blank. In ultimate analysis, this sunbeam, which is Knowing, is, for me, the origin of all that exists. My own existence is a revealed or known existence, yea, the existence of Knowing itself is the same. For us, everything is rendered existent through Knowing. True, Knowing is only one element in a process containing several elements, each of which, in a certain sense, implies all the rest. As this ruler involves its two ends, and the two ends the ruler, so, in the mental process of which Knowing forms an element, it involves and is involved by every other element of the same process. This process may, I conceive, be thus expressed: 'I know an object as existing'. Although the elements of this process, however, imply each other, they do not all do so in the same sense. For since it must perforce be admitted that the sunbeam which renders existent, for us, the whole of the formula is Knowing, it follows (hence the *ergo* of Descartes) that, in the Order of Knowing, every other element of the formula is posterior to Knowing. Knowing is the sunbeam which renders existent, for us, the whole man, as well as the man's environment. Descartes' formula, after all, then, does not seem to be a barren principle, in which that which precedes the *ergo* is as six, and what follows it, as the identical half dozen.

It is absolutely necessary, as the nature of Prof. Bain's criticism fully reveals, to distinguish the Order of Knowing from the Order of Evolution. The former is not inaptly expressed by Descartes' formula, *Cogito ergo sum*, or, as an equivalent formula, by *Sum quia* (*quum*) *cogitem;* the Order of Evolution by the converse—*Sum ergo cogito*, or *Cogito quia sim.* These two formulæ admit of being thus interpreted:—Through the medium of Knowing, it is, that I am rendered existent to myself: But through that portion of myself which cannot be eliminated (brain and nerves, circulation, nutrition, &c.) it is—so my Knowing declares—that my Knowing exists.

The *ergo* in Descartes' formula, therefore, may be taken as indicating the fact that my existence—my self-verified existence, at least (see the article on "The Veracity of Consciousness," in MIND, No. V.)—is rendered existent to me as the result or consequence of my Knowing. 'I think, therefore (or thereby) in so far, at least, as I am possessed of self-verifying attributes, I exist to myself.'

W. GEO. DAVIES.

Elements involved in Emotions.—I have long been dissatisfied with the account given of Emotion in books of mental philosophy. In particular great confusion has been introduced by the words 'feeling,' and 'sensibility' being employed to designate two such different things as sensations like pleasure and pain on the one hand, and mental emotions like hope, fear, pity on the other. The former are simple unresolvable states; in the latter are involved several elements. In a work to be published at no distant date I am to make an endeavour to unfold these elements. Meanwhile I present to the readers of MIND a summary of my views.

Four persons of much the same age and temperament are travelling in the same vehicle. At a particular stopping-place it is intimated to them that a certain person has just died suddenly and unexpectedly. One of the company looks perfectly stolid. A second comprehends what has taken place, but is in no way affected. The third looks and evidently feels sad. The fourth is overwhelmed with grief which finds expression in tears, sobs, and exclamations. Whence the difference of the four individuals before us? In one respect they are all alike: an announcement has been made to them. The first is a foreigner, and has not understood the communication. The second had never met with the deceased, and could have no special regard for him. The third had often met with him in social intercourse and business transactions, and been led to cherish a great esteem for him. The fourth was the brother of the departed, and was bound to him by native affection and a thousand ties earlier and later. From such a case we may notice that in order to emotion there is need first of some understanding or apprehension; the foreigner had no feeling because he had no idea or belief. We may observe further that there must secondly be an affection of some kind; for the stranger was not interested in the occurrence. The emotion flows forth from a well, and is strong in proportion to the waters; is stronger in the brother than in the friend. It is evident, thirdly, that the persons affected are in a moved or excited state. A fourth peculiarity has appeared in the sadness of the countenance and the agitations of the bodily frame. Four elements have thus come forth to view.

First, we may note the Affection, the Motive Principle or Spring of Action, or what I prefer calling the Appetence. In the illustrative case there is the love of a friend and the love of a brother. But the Appetence may consist in an immense number and variety of other motive principles, such as the love of pleasure, the love of wealth, or revenge or moral approbation. These appetences may be original,

such as the love of happiness, or they may be acquired, such as the love of money, or of retirement, or of paintings, or of articles of *vertu*, or of dress. These motive powers are at the basis of all emotion. Without the fountain, there can be no flow of waters. The passenger who had no regard for the person whose death was reported to him was not affected with grief. The two who loved him felt sorrow, each according to the depth of his affection.

Secondly, there is an Idea of something, of some object or occurrence as fitted to gratify or disappoint a Motive Principle or Appetence. When the friend and brother of the departed did not know of the occurrence they were not moved. But as soon as the intelligence was conveyed to them and they realised the death, they were filled with sorrow. The Idea is thus an essential element in all emotion. But ideas of every kind do not raise emotion. The stranger had a notion of a death having occurred but was not moved. The idea excited emotion in the breasts of those who had the affection, because the event apprehended disappointed one of the cherished appetences of their minds. The law is, that ideas raise emotion which contemplate the appetible or inappetible—that which gratifies or disappoints an appetence original or acquired.

Thirdly, there is the Conscious Feeling. The soul is in a moved or excited state; hence the word 'emotion'. Along with this there is an attraction or repulsion: we are drawn towards the objects that we love, that is for which we have an appetence, and driven away from those which thwart the appetence. To use looser phraseology, we cling to the good and turn away from the evil, not giving to the good or evil any moral quality. This excitement with the attraction and repulsion is the specially conscious element in the emotions. Yet it all depends on the other two elements, on the affection and the idea of something fitted to gratify or disappoint it. The felt excitement or passion differs according to the nature of the appetence and the depth of it, and according to what the idea that evokes it contains. A smaller gain or loss does not affect us so much as a greater, and the greatness or smallness of the gain or loss is determined by the cherished affection. What is a loss to one is not felt to be so by the other, because the ruling passions of the two men differ.

Fourthly, there is an Organic Affection. The seat of it seems to be somewhere along the base of the brain, whence it influences the nervous centres, producing soothing or exciting or at times exasperating results. This differs widely in the case of different individuals. Some are hurried irresistibly into violent expressions or convulsions. Others feeling no less keenly may appear outwardly calm, because restrained by a strong will, or feel repressed and oppressed, till they get an outlet in some natural flow or outburst. But it is to be observed that this organic affection is not the primary nor the main element in any feeling that deserves the name of emotion, such as hope and fear, joy and sorrow, anguish, reproach, despair. A sentence of a few words, it may be, announces to a man the death of his friend, and reaches his mental apprehension by the sense of hearing. First

he has to understand it, then he feels it because of his cherished affection, and then there is the nervous agitation. Emotion is not as it has often been represented by physiologists a mere nervous reaction from an external stimulus, like the kick which the frog gives when it is kicked. It begins with a mental act and is essentially an operation of the mind.

Each of these four elements has been noticed by different observers. All moralists have talked of the motives by which men are swayed, and attempts have been made by Dugald Stewart and others to classify them. Aristotle remarked Ὀρεκτικὸν οὐκ ἄνευ φαντασίας (*De An.*, III. 10), no appetence without a phantasm; and the Stoics represented passion as consisting in idea, and argued that passion could be subdued by controlling the idea. The excitement with the attachment is the prominent characteristic in the common apprehension and especially among novelists. Physiologists are apt to magnify the organic affection, and may be able to throw more light upon it than they have hitherto done. He who can unfold the whole of these four elements and allot to them their relative place and connection, will clear up a subject which is confusedly apprehended at present, will find a good classification of the emotions and be able to show us what emotion is in itself, and what place it has in the human constitution.

JAMES M'COSH.

IX.—CORRESPONDENCE.

MR. TYLOR'S REVIEW OF *The Principles of Sociology.*

Of the criticisms which Mr. Tylor makes on those chapters of the *Principles of Sociology* reviewed by him in the last number of MIND, I do not propose to say anything, further than to thank him for pointing out some errors of detail which I hope to correct: not, however, so soon as I should like, since the second edition was nearly through the press before his review appeared. But certain of his statements I feel called upon to notice, because of their personal implications.

These implications are contained in the second paragraph of his review, by the following among other passages:—

"As a worker for many years on the ground where Mr. Spencer is now engaged, I am desirous of noticing where he has followed lines already traced. . . . These chapters may, I think, be properly described as a new statement, with important modifications and additions, of the theory of Animism which (to pass over less complete statements in previous years) was given by me in summary in the *Journal of the Ethnological Society* for April 26, 1870,* and was worked out with great fulness of detail in my *Primitive Culture*, published in 1871. . . . How far his conclusions have been arrived at independently of mine I cannot say. . . . In comparing Mr. Spencer's system with my own, I am naturally anxious to see where the later writer differs from the earlier, and where for the better and where for the worse."

* In the last No. of MIND, this date was erroneously given as 1871.

Whether intentionally or not, Mr. Tylor, by these sentences, and especially by the one giving dates, inevitably conveys to his readers two impressions:—first, that I have adopted his views; and, second, that I have done this without acknowledgment. I proceed to show that the first impression is erroneous, and that therefore the second is baseless.

The date of Mr. Tylor's "summary" given above as April 26, 1870, is the date at which it was *read* before the Ethnological Society. At that date there was in print, and four days later there was issued, in the *Fortnightly Review* for May, 1870 (see also *Essays*, Vol. III., pp. 102-4), an essay of mine on "The Origin of Animal-Worship," in which there occur the following passages:—

"The rudimentary form of all religion is the propitiation of dead ancestors, who are supposed to be still existing, and to be capable of working good or evil to their descendants. . . . Everywhere we find expressed or implied the belief that each person is double; and that when he dies, his other self, whether remaining near at hand or gone far away, may return, and continues capable of injuring his enemies and aiding his friends. . . . Here, out of many experiences which conspire to generate this belief, I can but briefly indicate the leading ones:—(1) It is not impossible that his shadow, following him everywhere, and moving as he moves, may have some small share in giving to the savage a vague idea of his duality. It needs but to watch a child's interest in the movements of its shadow, and to remember that at first a shadow cannot be interpreted as a negation of light, but is looked upon as an entity, to perceive that the savage may very possibly consider it as a specific something which forms part of him. (2) A much more decided suggestion of the same kind is likely to result from the reflection of his face and figure in water: imitating him as it does in his form, colours, motions, grimaces. When we remember that not unfrequently a savage objects to have his portrait taken, because he thinks whoever carries away a representation of him carries away some part of his being, we see how probable it is that he thinks his double in the water is a reality in some way belonging to him. (3) Echoes must greatly tend to confirm the idea of duality otherwise arrived at. Incapable as he is of understanding their natural origin, the primitive man necessarily ascribes them to living beings—beings who mock him and elude his search. (4) The suggestions resulting from these and other physical phenomena are, however, secondary in importance. The root of this belief in another self lies in the experience of dreams. The distinction so easily made by us between our life in dreams and our real life, is one which the savage recognises in but a vague way; and he cannot express even that distinction which he perceives. When he awakes, and to those who have seen him lying quietly asleep, describes where he has been, and what he has done, his rude language fails to state the difference between seeing and dreaming that he saw, doing and dreaming that he did. From this inadequacy of his language it not only results that he cannot truly represent this difference to others, but also that he cannot truly represent it to himself. Hence, in the absence of an alternative interpretation, his belief, and that of those to whom he tells his adventures, is that his other self has been away and came back when he awoke. And this belief, which we find among various existing savage tribes, we equally find in the traditions of the early civilised races. (5) The conception of another self capable of going away and returning, receives what to the savage must seem

conclusive verifications from the abnormal suspensions of consciousness, and derangements of consciousness, that occasionally occur in members of his tribe. One who has fainted, and cannot be immediately brought back to himself (note the significance of our own phrases "returning to himself," etc.) as a sleeper can, shows him a state in which the other self has been away for a time beyond recall. Still more is this prolonged absence of the other self shown him in cases of apoplexy, catalepsy, and other forms of suspended animation. Here for hours the other self persists in remaining away, and on returning refuses to say where he has been. Further verification is afforded by every epileptic subject, into whose body, during the absence of the other self, some enemy has entered; for how else does it happen that the other self on returning denies all knowledge of what his body has been doing? And this supposition that the body has been "possessed" by some other being is confirmed by the phenomena of somnambulism and insanity. (6) What, then, is the interpretation inevitably put upon death? The other self has habitually returned after sleep, which simulates death. It has returned, too, after fainting, which simulates death much more. It has even returned after the rigid state of catalepsy, which simulates death very greatly. Will it not return also after this still more prolonged quiescence and rigidity? Clearly it is quite possible—quite probable even. The dead man's other self is gone away for a long time, but it still exists somewhere, far or near, and may at any moment come back to do all he said he would do. Hence the various burial-rites—the placing of weapons and valuables along with the body, the daily bringing of food to it, etc. I hope hereafter to show that, with such knowledge of the facts as he has, this interpretation is the most reasonable the savage can arrive at."

In succeeding pages of the essay I have contended that "out of the desire to propitiate this second personality of a deceased man" there grows up "the worship of animals, plants, and inanimate objects": facts being given in proof that animal worship is hence derived; that fetishism is hence derived; that nature-worship is hence derived. And after showing how the hypothesis yields interpretations of all orders of superstitions, even to "the worship of compound animals, and of monsters half-man half-brute," I have ended the essay with the following paragraph:—

"These views I hope to develop in the first part of *The Principles of Sociology*. The large mass of evidence which I shall be able to give in support of the hypothesis, joined with the solutions it will be shown to yield of many minor problems which I have passed over, will, I think, then give to it a still greater probability than it seems now to have."

Unquestionably the general theory here sketched, is identical with that contained in those chapters of the *Sociology* reviewed by Mr. Tylor; and as this general theory, with its essential applications, was set forth by me at a date coinciding with that at which his "summary" was read, he causes a misapprehension by saying that "as a worker for many years on the ground where Mr. Spencer is now engaged, I am desirous of noticing where he has followed lines already traced". Should he fall back on his "less complete statements in previous years," then I draw his attention to a statement earlier in date, I think, than any work he has published. On turning

to the *Westminster Review* for April, 1854, pp. 360-1 (see also *Essays*, first series, pp. 114-15, and in the current edition, Vol. I., pp. 66-8) he will find indicated as clearly as the available space allows, the belief that the ghost-theory is the origin of religious ideas and observances; that the savage understands death only as temporary desertion of the body; that he expects the other self to return; that from fears and hopes directed towards this double of the dead man result sacrifices at graves; and that the various evidences "almost unavoidably suggest the conclusion that the aboriginal god is the dead chief: the chief not dead in our sense, but gone away" for a time. On p. 137 of the *Principles of Sociology*, I have referred, in a note, to these preceding brief statements of the conception. Unfortunately, Mr. Tylor appears to have missed this note. Had he read the passages I have quoted and referred to, he would not, I think, have said that the chapters he reviews are "properly described as a new statement, with important modifications and additions, of the theory of Animism which was given by me" [him], &c. His characterisation of these chapters would rather have been:—first, that their essential idea dates back to 1854; second, that in 1870 this idea was set forth in a developed form; third, that in the *Principles of Sociology* I have "followed lines already traced" by myself; and fourth, that I have done this in fulfilment of a promise, made seven years ago, which distinctly refers to the accumulated evidence and the various elaborations now published.

From the question of date I pass to the question of identity. I expected to have in Mr. Tylor an opponent. That I so misunderstood what he asserts to be his view, is, I think, due to the fact that the foreground of his exposition is occupied by another interpretation than that on which he now chiefly insists; and that the first impression produced by it is stronger than subsequent impressions. That part of his *Primitive Culture* which treats of superstitions, begins with three chapters on Mythology; throughout which the teaching appears to be that the personification of inanimate objects and powers is primordial, and quite independent of the ghost-theory. Here are some passages implying this:—

"To the human intellect in its early childlike state may be assigned the origin and first development of the myth." (Vol. I., p. 257, 1st ed.)

"First and foremost among the causes which transfigure into myth the facts of daily experience, is the belief in the animation of all nature, *rising at its highest pitch to personification*. This, no occasional or hypothetical action of the mind, is inextricably bound in with that primitive mental state where man recognises in every detail of his world, the operation of personal life and will. *This doctrine of Animism* will be considered elsewhere as affecting philosophy and religion, but here we have only to do with its bearing on mythology." (*Ib.* p. 258.)

This "idea of pervading life and will in nature far outside modern limits, *a belief in personal souls animating what we call inanimate bodies, a theory of transmigration of souls as well in life as after death*," &c. (*Ib.* p. 260.)

These, and many kindred passages occurring in the chapters on

mythology, left on me the impression that Mr. Tylor ascribes to the aboriginal mind an innate tendency to animistic interpretation, quite apart from those experiences which lead to the notion that each man has a double. Especially did passages such as those I have italicised suggest the belief that, in Mr. Tylor's view, the ascription of souls to objects in general, apart from their appearances as living or dead, is primeval; and that the human soul is but one kind of the souls, independently conceived of as possessed by things in general. And this impression is confirmed by various of his illustrative statements, as when he says :—

"So it is with the stars. Savage mythology contains many a story of them, agreeing through all other difference in attributing to them animate life. They are not merely talked of in fancied personality, but personal action is attributed to them, or they are even declared once to have lived on earth."

A mode of representing the matter, which, joined with the previous generalisation, presupposes the belief that personalisation of these celestial objects had first arisen, and that their identification with human beings took place afterwards. As I have endeavoured to show that there is no primitive animistic tendency at all, and that until the ghost-theory has been developed the personalisation of objects does not take place, I not unnaturally regarded Mr. Tylor as at issue with me "in respect to the order of genesis and mode of dependence of primitive superstitions"; as said in the above-named note on page 137 of the *Principles of Sociology*. In a subsequent chapter of *Primitive Culture*, I find passages which unquestionably represent the ghost-theory as primary; though how Mr. Tylor reconciles them with preceding statements I do not see. But he has so marshalled his facts and arguments as, at any rate, to cause misconceptions in many minds besides my own. I have put the question to six competent readers. One of them thought Mr. Tylor's view was that which he alleges. Two were in doubt as to his belief concerning the origin of Animism. The remaining three were under the impression that he regarded the tendency to think of all objects as containing independent personalities, or souls, as primary and general; and that the conception of a human soul is one of its manifestations.

It is satisfactory now to find that this last is not Mr. Tylor's view; but that, contrariwise, he substantially agrees in regarding the ghost-theory as primary and other forms of superstitions as derived—substantially, I say, for it appears that he does not hold this view in the unqualified form given to it by me.

HERBERT SPENCER.

19th April, 1877.

IN my review of Mr. Spencer's *Principles of Sociology* in last quarter's MIND, I took pains to bring prominently forward whatever opinions in it seemed new and peculiar. He now raises the question whether I was right in considering him to have partly "followed lines already traced". In noticing how remarkably a great part of

his views correspond with the system of Animism previously laid out by me, I was comparing his volume (published in 1876) with my *Primitive Culture* (published in 1871), or, what is practically the same thing, with the summary of the chapters on Animism belonging to it which (they had been in MS. since 1869) I read as a paper at the Ethnological Society on April 26, 1870. Mr. Spencer objects to this on the ground that he had already written an outline of his views in an essay on "The Origin of Animal-Worship," which had not indeed been published when my paper was read, but was in type, and came out in the *Fortnightly Review*, for May, 1870.

Though this preliminary outline of Mr. Spencer's does not take in all the points of his later completed system, it will serve for comparison. Accordingly, as he reprints its most important passages above, I now copy some of these in order as they come, and place beside them extracts from two lectures delivered by me at the Royal Institution in 1867 and 1869.

"It is not impossible that his shadow, following him everywhere, and moving as he moves, may have some small share in giving to the savage a vague idea of his duality." "A much more decided suggestion of the same kind is likely to result from the reflection of his face and figure in water, imitating him as it does in his form, colours, motions, grimaces."

"The root of this belief in another self lies in the experience of dreams. The distinction so easily made by us between our life in dreams and our real life, is one which the savage recognises in but a vague way; and he cannot express even that distinction which he perceives. When he awakes, and to those who have seen him lying quietly asleep, describes where he has been, and what he has done, his rude language fails to state the difference between seeing and dreaming that he saw, doing and dreaming that he did. . . . . Hence, in the absence of an alternative interpretation, his belief, and that of those to whom he tells his adventures, is that his other self has been away and came back when he awoke."

"The conception of another self capable of going away and returning receives what to the savage must seem conclusive verifications

"The [savage] notion of the ghost runs almost inextricably into that of the spirit or soul, of the breath and the blood, and of those unsubstantial somethings which follow the man and are like him, his shadow and his reflection in the water."—(Tylor, 1867.)

"Now Animism in the lower civilisation is not only a religion, but also a philosophy; it has to furnish rational explanations of one phenomenon after another, which we treat as belonging to biology or physics. If a man is alive and moving, the animistic explanation is that his soul, a thin, ethereal not immaterial being in the man's likeness, is within him, animating him, just as one gets inside a coat and moves it. If the man sleeps and dreams, then either the soul has gone out of him to see sights that he will remember when he wakes, or it is lying quiet in his body, receiving visits from the spirits of other people, dead or alive—visits which we call dreams. If the man when fasting or sick sees a vision, this is a ghost or some other spirit; if he faints or falls into a fit, his soul has gone out of him for a time, and must be recalled with mystic ceremonies;

from the abnormal suspensions of consciousness, and derangements of consciousness, that occasionally occur in members of his tribe. One who has fainted, and cannot be immediately brought back to himself (note the significance of our own phrases 'returning to himself,' etc.), as a sleeper can, shows him a state in which the other self has been away for a time beyond recall. Still more is this prolonged absence of the other self shown him in cases of apoplexy, catalepsy, and other forms of suspended animation. . . . Further verification is afforded by every epileptic subject, into whose body, during the absence of the other self, some enemy has entered. . . . And this supposition that the body has been 'possessed' by some other being is confirmed by the phenomena of somnambulism and insanity."—(Spencer, 1870.)

if it returns, he recovers, but if it stays away permanently, then the man is dead. If the man takes a fever or goes mad, then it is a spirit which is hovering about the patient, shaking and maltreating him, or it has got inside him, and is driving him, tearing him, speaking and crying by his voice. . . . This early animistic doctrine is to a great degree superseded by science, which sees in dreams and visions, not objective spiritual visits, but subjective phenomena of the mind, and regards the afflicted cataleptic no longer as doctor, but as patient."—(Tylor, 1869.)

In quoting passages, I might have even gone back to the Introduction to my *Early History of Mankind* (1865), but these seem enough to confirm what I said as to Mr. Spencer, in some measure, following lines already traced. In arranging the above passages side by side, their similarity indeed is seen to be so close that one can hardly imagine their originating independently. Here are seven leading points of a somewhat complex theory, all contained in a few lines of my lectures, and all coming together in Mr. Spencer's single note. But on looking more closely, the order of the topics proves to be a yet more curious piece of internal evidence. In my passages they come in succession thus—Shadow, Reflexion, Dreams, Fainting, Fits, Madness, and Possession. This succession is partly accidental, the first two points being from one lecture and the last five from another. But on examining Mr. Spencer's passages, it will be seen not only that my succession reappears, but that what was accidental with me has even become part of his systematic order—Shadow, Reflexion, Dreams, Fainting, Fits, Possession, and Madness. The transposition of the two last is accounted for by both being combined in one sentence of mine, which might be broken either way. Here, I think, is circumstantial evidence enough to justify an inference somewhat thus—Mr. Spencer, having read my lectures, may have taken short notes, and afterwards expanded these in his essay with matter of his own interspersed, eventually forgetting about it so perfectly that he is now bringing forward against me my own ideas as proofs that they are not mine. By doing this, however, he led me to perform the converse process to his, by cutting out from his passages what was not mine, and behold, there were my seven little propositions come back to me as they

went. Such internal evidence hardly needs a further clue, but one may be found. Mr. Spencer's essay is a review of Mr. M'Lennan's papers on "The Worship of Animals and Plants," also in the *Fortnightly Review*, October and November, 1869. Mr. Spencer therefore had under his eyes the place (p. 423) where Mr. M'Lennan, writing of primitive Fetishism and Animism, appends the following note :—"Two papers having a bearing on this matter, written by Mr. E. B. Tylor, the one on 'The Early Mental Condition of Man,' and the other on 'Traces of Savage Thought in Modern Civilisation,' both read before the Royal Institution, London, are well worthy of being consulted". These are the two lectures above quoted.

This inference seems not weakened but strengthened by examination of Mr. Spencer's earliest article, that on "Manners and Fashion" in the *Westminster Review* of 1854, with which he proposes to meet any publication of mine previous to 1870. In this essay will be found some of his views which have since remained most characteristic. I certainly have no conflict with Mr. Spencer for possession of the theory that ancestor-worship is the primitive religion ("the aboriginal god is the dead chief"), a doctrine much like that taught by no less a philosopher than Euhemerus in the 4th century, B.C. For my own part, I look on this theory as only partly true, and venture to consider Mr. Spencer's attempt to carry it through unreservedly as one of the least satisfactory parts of his system. In Mr. Spencer's 1854 essay is also stated the difference of the savage idea of death from ours, and the notion of the dead being gone to some other land whence he will return, this leading to funeral offerings of food, weapons, &c. But I must take exception to the way in which Mr. Spencer, in his present letter, reads back his later animistic ideas into the contents of this early essay, of which the fundamental principle is Comte's fetishism. I look there in vain for any explicit statement indicating the ghost-theory as the origin of religious ideas, or for anything about the "other self" or "double" of the dead man. Indeed, I ask any one interested in the present discussion to take Vols. I. and III. of Mr. Spencer's *Essays*, to compare the early article on "Manners and Fashion" with the late article on "Animal-Worship," and to say whether I am not right in considering one of the most striking features of the essay of 1854 to be the absence of the animistic ideas which have become so prominent in the essay of 1870. I have already given my opinion as to the likeliest way of accounting for this change of views.

It had not crossed my mind that Mr. Spencer's article of May 1870, would be used as a means of claiming priority, till I saw the note at p. 137 of his *Principles of Sociology*, which he supposes I may have missed. I had not missed it, and indeed wrote a few days ago to the *Academy* to call attention to its wording, which is not unlikely to lead readers to think that after Mr. Spencer had published his outline, I took up the subject and published "views in some respects like" his. I have asked him to prevent this misapprehension by giving his readers some intimation of the actual state of the case.

I need hardly say much on Mr. Spencer's concluding paragraphs as to his having misunderstood the similarity between his own views and mine as to the whole animistic doctrine being ultimately derived from the conception of the human soul. He now admits that he finds "passages which unquestionably represent the ghost-theory as primary". Considering that the opinion in question is prominent even in the chapter-headings and index of *Primitive Culture*, of which Mr. Spencer was not a mere casual reader, but was using it in the composition of his *Principles of Sociology*, I really think he should have been aware that I held such a view.

EDWARD B. TYLOR.

May 28, 1877.

MUCH space and time would have been saved had Mr. Tylor, in his review of my book, given the places and dates of the "less complete statements [of his views] in previous years," which he refers to (MIND, p. 142). My statement given above, was written before his correction of his erroneous date, 1871. As my own paper on Animal-worship was published in 1870, and as I was ignorant of the when and the where of his previous writings, such references as I made were exclusively to *Primitive Culture*. After Mr. Tylor's rectification of date (in the *Academy*), I altered the date in my proof, and referred to his paper in the *Ethnological Transactions;* finding in it a much greater kinship of view respecting the part played by the ghost-theory, than his *Primitive Culture* led me to suppose. As, however, his paper was, as shown above, simultaneous with my own, it did not require me to make any essential alterations in my statement; and I awaited his rejoinder with perfect calmness.

Being thus unprepared for the evidence Mr. Tylor has now given, I confess that it startled me; and I was above all startled on learning that in Mr. McLennan's papers in the *Fortnightly*, which led me to publish the essay on Animal-worship, there were references to those lectures of Mr. Tylor from which he now gives extracts, but of which I knew nothing. The shock was an extremely unpleasant one; for, invalid though I knew Mr. Tylor's inference to be, I did not at first sight see how I was to show its invalidity. I think, however, I shall be able to do this.

Let me first remark that, having a case which he doubtless thinks very strong, Mr. Tylor might fitly have refrained from certain acts which, to say the least, are questionable. Twice he has laid before the readers of the *Academy* parts of his case, though the counter case was not before them, nor was about to be placed before them, but was, as distinctly stated by me, to be given here. Further, Mr. Tylor, both in his review and in one of his letters to the *Academy*, has overstated the facts. He has spoken of his views as given "in summary in the *Journal of the Ethnological Society* for April 26th"; whereas April 26 was the date at which his paper was read, and publication of it in the *Journal* did not take place till some months later.

And then, in his second letter to the *Academy* he has spoken of his paper as being *before* mine on Animal-worship, in such way as to imply that it was accessible to me; whereas mine was in *print* at the time when his was *read*.

I now proceed to show that this overstraining of the evidence gives much of its seeming strength to Mr. Tylor's statement above. Let me take first what appears its strongest point—the correspondence between the orders of the causes assigned for the origin of the ghost-theory. These causes as given by Mr. Tylor are, by his own showing, taken from separate lectures; and he makes out his series by putting together two sets of causes assigned at an interval of two years. Further, to produce the correspondence, he suppresses two of the factors contained in my series but not in his, besides modifying the expression of others; and he suppresses from his own series two factors, of which one is not in mine, and the other is differently placed in mine. Observe how the two groups stand when taken literally from the above-quoted passages

SPENCER.	TYLOR.	
Shadows.	Shadows.	Lecture of 1867
Reflexions.	Reflexions.	
Echoes.		
Dreams.	Dreams.	Lecture of 1869
Fainting.	Fainting.	
Apoplexy.		
Catalepsy.	Fits.	
Epilepsy (Possession).	Death.	
Somnambulism.	*Fever.*	
	[*i.e.* delirium]	Possession.
Insanity.	Madness.	
Death.		

That Mr. Tylor has shown skill of manipulation in bringing complete likeness out of lists so considerably unlike, must be admitted; but it seems to me that in thus modifying them he was impolitic. He might have been sure I should re-state the facts as they stand. Moreover, he might have been content with the degree of correspondence which actually exists; and might still have alleged the unlikelihood that my list was drawn up without any knowledge of his; for in the absence of explanation the agreement is sufficiently remarkable. There is an explanation, however, if not of the agreement, yet of the particular order adopted by me. That order is the one which I have everywhere followed in treating the phenomena of evolution—the order from the simple to the complex, from the inorganic to the organic, from the general to the special. If Mr. Tylor will turn to *First Principles*, Part II., and glance at chapters viii., ix., x., and at a further group of nine chapters, xiv. to xxii., he will find that in every case the evidences from the inorganic are placed before those from the organic, and that in each of these divisions the sub-groups progress from the simple and general to the complex and special. Or if, again,

he will turn to the *Classification of the Sciences*, he will find an exactly parallel order adopted. Now in the above list I have placed first the inorganic phenomena suggesting duality—shadows, reflexions, echoes; of which the shadows are the most general and simple, reflexions less general and simple, and echoes the most special. In the remainder of the phenomena, which are organic, come first the most general, dreams; then the less general, faintings; then the still less general, fits of various kinds, and the comparatively unusual somnambulism and insanity: death coming at the end, not as being less general or more complex than some of the preceding ones, but because it is to be interpreted by all the preceding. So that I could not have chosen any other order without abandoning my habitual mode of classification. To which explanation of this order, let me add that were it true, as Mr. Tylor suggests, that I adopted my interpretation from him, it is scarcely likely that I should have left undisguised such parallelism as exists.

Beyond that internal evidence of independent origin yielded by the inclusion of two causes of the ghost-theory not assigned by Mr. Tylor, and the omission of one named by him, let me point to other internal evidence of considerable significance. I have in several cases assigned reasons why the savage forms the conclusion he does, which Mr. Tylor has not assigned: instance the savage's belief that a portrait carries away part of his being, as illustrating his belief that a reflexion is a part of his being; instance the inadequacy of his language to represent the difference between dream-experiences and real experiences. But not dwelling further on these internal evidences, I pass to the external evidences that these factors of the ghost-theory were not adopted from Mr. Tylor. In § 56 of the *Principles of Sociology* there is proof that in 1858-9, the phenomena of shadows, as giving the idea of duality, were remarked upon by me in connection with Williams's work on Fiji, in which he describes the Fijians as believing that both shadows and reflexions are souls (p. 241); and if Mr. Tylor questions the validity of this proof, because it is a statement contained in a recent work, then I refer him to *First Principles*, § 2 (which § 2 formed part of a No. issued in October, 1860), where he will find some words quoted from page 30 of that book by Williams, showing it had then been read by me. Here, then, are the first three factors—shadows, reflexions, and echoes (not named by Mr Tylor) for which I am clearly not indebted to him. With respect to the remaining factors, I have first to point out that the supposed desertion of the body by the soul in fainting is also referred to as a Fijian belief in Williams's book (p. 242), making four out of Mr. Tylor's seven that were known to me before he wrote. And then, observing that in this same book are illustrated the primitive notions that the spirits of dead, and even of living, men can trouble people in their sleep (pp. 241-2), and that a priest when supposed to be "possessed" looks like "a furious madman," I ask whether it was unlikely that among the factors of the ghost-theory I should name suspended animation of other kinds than syncope, as well as the several forms of deranged consciousness.

But now I go on to assign the chief sources from which my views above given were derived. In the preface to the *Descriptive Sociology*, Mr. Tylor will find it stated that in October 1867, Mr. David Duncan (now professor in Madras) commenced under my superintendence the compilation of those divisions of it dealing with the uncivilised races. When he left me, in March 1870, there were completed tables and classified extracts of the "Types of Lowest Races," "Negrito Races," "Malayo-Polynesian Races," and "African Races": in all, thirty savage and semi-civilised peoples. If Mr. Tylor will turn to the two parts of the *Descriptive Sociology* containing these tables and extracts, which were in manuscript at the time when I wrote the paper on Animal-worship, and if he will read down the column of superstitions in each table, and look at the correlative extracts, he will see that I had before me an amount of evidence forming an amply sufficient ground for the views respecting the ghost-theory set forth in that essay, without any need for referring to lectures given, or papers written, by others. He will see, for instance, that there are named three races who hold that the soul deserts the body in sleep, and that dreams are its adventures, and nine races who believe the spirits and ghosts of dead relatives seen in dreams, to be real; so that the opinion expressed by me in the above-quoted passage, that "the root of this belief in another self lies in the experience of dreams," was neither adopted at second-hand nor without good warrant. And, further, he will see that, as abstracted in these columns, the facts tell their own tale so completely, that there needs but little inductive faculty to draw the inevitable inferences. To complete the proof, it remains now only to quote a statement from Mr. Tylor's review. He says:

> "In its main principles, the theory requires no great stretch of scientific imagination to arrive at it, inasmuch as it is plainly suggested by the savages themselves in their own accounts of their own religious beliefs. It is not too much to say that, given an unprejudiced student with the means (only of late years available) of making a thorough survey of the evidence, it is three to one that the scheme of the development of religious doctrine and worship he draws up will be an Animistic scheme."

Thus it appears that though the view held by Mr. Tylor, with which he identifies mine, "is plainly suggested by the savages themselves in their own accounts of their own religious beliefs"; and though I had before me an immense accumulation of such accounts deliberately prepared for generalisation; Mr. Tylor thinks I must have had recourse to his lectures for my conclusions. He says, it is three to one that this doctrine will be arrived at by "an unprejudiced student" "making a thorough survey of the evidence"; and yet though I was in possession of abundant evidence from many parts of the world, classified and abstracted as no student of such evidence ever had it before, Mr. Tylor takes the one chance against the three, and prefers to think that I did not draw the inferences myself, but plagiarised upon him. Not only does he ascribe to me this dishonesty, but he ascribes to me an almost incredible stupidity; since he thinks that, having deliberately appro-

priated his conclusions without acknowledgment, I challenged his implied belief of my indebtedness, knowing (according to his view of my act) that I was calling forth the evidence which would justify that belief. In the face of clear proof that primitive ideas had been a matter of study with me as early as 1854, and that, continuing my inquiries at intervals, I commenced in 1867 a systematic compilation and classification of them, which in 1870 had become very extensive; Mr. Tylor alleges against me a great unscrupulousness and a folly equally great, rather than allow to me an insight comparable to his own.*

The paragraph of Mr. Tylor's above reply in which he comments on the views I expressed in 1854, is, in one sense, very satisfactory to me. It asks readers interested in the question to compare those views with my later ones, for the purpose of verifying Mr. Tylor's characterisation; and the comparison will, I venture to think, prove to them the extreme bias of his judgment. He says that the conception in the essay of '54, has Comte's fetishism for its fundamental principle (what he means by Comte's fetishism as distinguished from any other, I do not know); and that it contains no "explicit statement indicating the ghost-theory". I first remind Mr. Tylor that the two pages containing that conception seem, even as it is, somewhat out of place in the essay on "Manners and Fashion," though needful to its argument; and that I was obviously debarred from a fuller statement. Doubtless at that time I held the current belief respecting fetishism (as acknowledged in the paper on Animal-worship, where I definitely repudiate that belief). But the fetishism believed by me in 1854 to be a primitive mode of thought, and in 1870 rejected by me as not primitive, is exactly that which Mr. Tylor calls "Animism"—the mode of thought under which "surrounding objects and agents are regarded as having powers more or less definitely personal in their natures". (*Essays*, Vol. III., p. 112.) Further, I have to point out that in the essay of 1854, it co-exists with the rudiments of that ghost-theory which in 1870 has wholly expelled it. Mr. Tylor sees no recognition of the primitive belief in a double, but only a recognition of fetishism, in the facts I have cited to show that death is at first understood as a state from which

* When Mr. Tylor has solved these incongruities, there will remain for him another, to which I draw his attention. In a note to *First Principles*, § 58 (recent editions), he will find an acknowledgment of a verbal suggestion received. In a note to § 82 of the same work, he will find a volunteered statement that a friend had reached a view like that there set forth, though he had not published it. In the *Principles of Psychology*, § 307, he will find reference to an idea expressed to me in conversation which had possibly influenced my course of thought. In the *Classification of the Sciences*, first edition, Table I., he will find another acknowledgment of a verbal suggestion; and in the second volume of the *Essays*, p. 244, he will find yet another. And once more in the *Principles of Biology*, § 373, there is a distinct repudiation of a degree of credit for originality which might else have been ascribed to me. With these six cases of acknowledgments made where no evidence could be produced of the need for them, I invite Mr. Tylor to reconcile his supposition that I appropriated without acknowledgment ideas already in print.

there will be revival. When I cite the notion of the Fijians that an enemy has to be killed twice, so implying a duplicate, and when I refer to pagans who attribute to the soul the same shape and substance as the body, Mr. Tylor sees in this only fetishism, and thinks it implies no perception on my part that the savage believes in a second self of the dead man. When, in further explanation of this primitive doctrine, I refer to the food, &c., left with the corpse, to the conception of another world to which men travel after death, and to the idea that the dead chief will come back from this other world, Mr. Tylor sees in this only fetishism, and no approach to the ghost-theory. Nor when, in further proof, I refer to past and present races, among whom "every family has its guardian spirit," "one of their departed relatives," can Mr. Tylor see any implied assertion that savages believe that dead men have doubles: he sees only a delineation of fetishism.

And now let us mark what, twelve years later, Mr. Tylor sets forth as that "Animism" which he identifies with the ghost-theory, and which he thinks I have adopted from him. From the earliest paper he names in the *Academy* as containing his views, published in the *Fortnightly* for August, 1866, here is a sentence which, after a preliminary paragraph, sets forth the doctrine he is about to describe as "Animism"—"the old and simple theory which explains the world at large as directly animated by a life like our own" (p. 72); and then, further on, it is re-stated as—"a theory of animation which accounts for each phenomenon of nature, by giving it everywhere a life like our own" (p. 83). This, then, in Mr. Tylor's view, is not Fetishism but Animism—this it is which he identifies with the ghost-theory as held by me; and from expositions of his, pervaded by this conception of primitive beliefs, he says my conception of primitive beliefs has been derived. On the whole, I think, on comparing the two, the interested reader invoked by Mr. Tylor, will see in my essay of '54 a subordinate fetishism and a dominant ghost-theory, and in Mr. Tylor's essay of '66 a subordinate ghost-theory and a dominant fetishism.

That the foregoing proposition could be more conclusively established I did not suspect when writing it. After writing it, however, I obtained from the Royal Institution copies of those lectures of Mr. Tylor from which he quotes above, for the purpose of seeing what accompanying statements they contained. In the lecture of 1867, I soon came upon passages which astonished me not a little. He says—"The worship of such spirits [in natural objects at large], found among the lower races over almost the whole world, is commonly known as 'fetishism'. It is clear that this childlike theory of the animation of all nature lies at the root of what we call Mythology." Here the two conceptions which Mr. Tylor now distinguishes, are identified by description. But this is not all. The next sentence runs thus:—"It would probably add to the clearness of our conception of the state of mind which thus sees in all nature the action of animated life and the presence of innumerable spiritual beings, if we give it the name of Animism instead of Fetishism." Here the two conceptions, now placed by Mr. Tylor in antithesis, are identified by name.

The facts in brief, then, are these. My statement of 1854, joining with implied acceptance of the current view about fetishism, distinct rudiments of the ghost-theory, Mr. Tylor characterises as only Fetishism, in contra-distinction to that Animism which he now identifies with the ghost-theory; and he alleges that I have derived this contra-distinguished conception of Animism from lectures in which he identifies Fetishism with Animism both by description and by name! Nor is this all. While in my essay of 1870, I repudiated the theory of Fetishism entirely, and alleged the adequacy of the ghost-theory to explain all the facts, Mr. Tylor, in his *Primitive Culture*, issued in 1871, continued to make Fetishism *alias* Animism the basis of Mythology, just as he alleged it to be in the passage above quoted. The reader may now judge what truth there is in Mr. Tylor's supposition that I have "followed lines already traced" by him.

2nd June, 1877. HERBERT SPENCER.

Want of space prevents my re-discussing fetishism, animism, and other matters. But I must notice that Mr. Spencer has shifted his ground. In his first letter he met my claim by referring me to an essay written by him in 1854, whereas in his second letter he brings forward books years later in date as sources of his ideas. And was it unreasonable in me to suppose that he might have used publications of mine? When I compare the dissertation on the souls of lifeless things at pp. 193-5 of his *Principles of Sociology* with the treatment of the same subject five years earlier in my *Primitive Culture*, Vol. I. (1st ed.) pp. 430-8, 452; (2nd ed.) pp. 477-85, 500, and notice how not only the set of principal evidence, but two of the main inferences, and even the term "object-souls" (a word of my own making, I believe) reappear in Mr. Spencer's pages without any remark as to all this having been said before by me, I think there was no unlikeliness in my supposition that much the same might have happened in 1870. As Mr. Spencer now says that he knew nothing of my lectures, I of course accept this against circumstantial coincidences however extraordinary. I am glad to hear that Mr. Spencer is issuing a note to clear up that at p. 137 of his work. Had he looked at my early papers, of which he had a list before him in the preface to my book, this unpleasant controversy might not have arisen.

EDWARD B. TYLOR.

June 13.

P.S.—If I remember Mr. Spencer's letter rightly, he proves that the order of the topics in his essay must have been his own, being a necessary consequence of his system. This argument does not seem strengthened by noticing (as I have just done) that in the book in which his system is now worked out, the succession is *not the same*, Death being actually placed *before* Madness and Possession. E.B.T.

June 19.

X.—NEW BOOKS.

The Physical Basis of Mind. With Illustrations. Being the Second Series of *Problems of Life and Mind.* By George Henry Lewes. London: Trübner & Co. 1877. Pp. 493.

This work, of whose contents a general notion was given in last number before its publication, has now appeared. It will be reviewed later on.

A Critical Account of the Philosophy of Kant, with an Historical Introduction. By Edward Caird, M.A., Professor of Moral Philosophy in the University of Glasgow, late Fellow and Tutor of Merton College, Oxford. Glasgow: Maclehose. 1877. Pp. 673.

Due criticism will be offered on this elaborate and important work. Meanwhile the following extracts are made from the preface, giving a notion of its scope and method.

"The object of this work is to explain the Critical Philosophy in its relation to the general development of Philosophy, and especially to the stages of that development which immediately preceded it. I have therefore found it necessary to give a short account of the tendencies and methods of the three great modern schools of speculation, which were founded by Descartes, by Locke, and by Leibnitz. The influence of Descartes and Spinoza upon Kant was remote and indirect; that of Locke and Hume on the one hand, and of Leibnitz and Wolff on the other, was direct and immediate. As regards the philosophy of Locke and Hume, the exhaustive work of Mr. Green made it unnecessary for me to enter into much detail. As regards the philosophy of Leibnitz, there is, so far as I know, no satisfactory account or criticism of it in the English language: and for that reason, as well as because the connection of his speculations with those of Kant has not received so much attention, I have given more space to the examination of that author.

"It was originally my intention to give a general account of the development of the philosophy of Kant, without specially examining his different works, or following minutely his own division of the subject. But I soon found that, especially in the case of the *Critique of Pure Reason,* it was almost impossible to separate the substance of the Critical Philosophy from Kant's mode of exhibiting it. The *Critique,* besides, has become the subject of so much controversy, that any account of its doctrines requires a running commentary on the text to justify it. For these reasons, as well as for the convenience of students, I have thought it advisable, in the first place, to state what I believed to be the meaning of each considerable section of the *Critique,* and then to add such comments and criticisms as seemed to be necessary. In some few cases, where it would have involved unnecessary repetition, I have not rigidly adhered to this method of separating explanation from criticism; but in these cases, I think the distinction has been sufficiently indicated to save the reader from any confusion." . . .

"I hope at some future time to complete the general plan of this work in another volume on the Ethical and Æsthetical works of Kant, especially the *Critique of Practical Reason* and the *Critique of Judgment.*"

System of Positive Polity. By Auguste Comte. Vol. IV., containing the Theory of the Future of Man, with an Appendix consisting of Early Essays on Social Philosophy. London: Longmans & Co. 1877. Pp. 678.

"This volume was published by the author in August, 1854. All the 'Positive Polity' [within this volume, pp. 481] has been translated by Richard Congreve. The General Appendix, which contains all the Early Essays of the author on Social Philosophy, has been translated by Henry Dix Hutton. The Marginal Notes and the Table of Contents have been added by the translators, aided, so far as the first part of the volume is concerned, by Samuel Lobb. The Index is the work of Frederick Harrison." Vols. I. and II. appeared in 1875, and Vol. III. in 1876, as previously noted in MIND. Both translators and publishers are to be congratulated on the completion of their great enterprise.

Outlines of Biblical Psychology. By J. T. BECK, D.D., Prof. Ord. Theol., Tübingen. Translated from the Third enlarged and corrected German Edition, 1877. Edinburgh: T. & T. Clarke. 1877. Pp. 170.

Originally published in 1843; the Second Edition in 1862. The work is in three chapters: I. Life of the Human Soul as *Nephesh* (soul), A. General view of the subject, B. Operations of the soul as at once sensible and spiritual: II. Life of the Human Soul as affected by *Ruach* (spirit), A. General view of the life of the spirit, B. Operations of spirit in the soul: III. Life of the Human Soul as centered in *Lebh* (heart), A. Essential nature of the heart, B. Relations of the heart to the life.

The Lunacy Acts. By DANBY P. FRY, of Lincoln's Inn, Barrister-at-Law. Second Edition. London: Knight & Co., Maxwell & Co. 1877. Pp. 771.

Contains all the statutes relating to private, pauper and criminal lunatics, Commissions of Lunacy, public and private Asylums, and the Commissioners in Lunacy, with an introductory commentary, notes to the statutes, including references to decided cases, and a copious index. The statement of the law under all the above heads is brought down to the present time from 1864, the date of the former edition.

The Care and Cure of the Insane. By J. MORTIMER GRANVILLE M.D., F.S.S., &c. 2 Vols. London: Hardwicke and Bogue. 1877. Pp. 356, 300.

Reports of the *Lancet* Commission on Lunatic Asylums, 1875-7, for Middlesex, the City of London and Surrey, with a digest of the principal records extant, and a statistical review of the work of each Asylum from the date of its opening to the end of 1875.

History of Materialism, and Criticism of its Present Importance. By FREDERICK ALBERT LANGE. Authorised Translation by Ernest Chester Thomas. Vol. I. London: Trübner & Co. 1877. Pp. 330.

This translation, when completed, will be in three volumes, the whole work standing first in the projected series entitled 'The English

and Foreign Philosophical Library'. The present volume brings down the history to the end of the 17th century, giving thus three parts out of the four included by Lange in his first book, which extends to Kant: the remaining volumes will speedily follow. The second edition, published in 1873, two years before the author's death, is followed in the translation, but there is incorporated from the newly published third edition (otherwise not different from the second) the short biographical sketch to which reference was made in MIND, No. V., p. 138. The English and Foreign Philosophical Library could not be more worthily inaugurated than by a translation of Lange's great work.

Die Philosophische Geschichtsauffassung der Neuzeit. Erste Abth., bis 1700. Von RICHARD MAYR. Wien: Holder. 1877. Pp. 248.

A critical account of theories of the Philosophy of History, to be brought down to the present time in three more Parts. Besides philosophers proper, historians also are reviewed when their work has been inspired by philosophical theory. The author does not proceed upon any hard and fast definition of philosophy or aim at an *à priori* construction of history, but brings criticism to bear on the various theories as they arise. His own philosophical views, related mainly to those of Kant and Schopenhauer, will emerge more clearly in the later parts of the work. He claims for it the character of being the first comprehensive monograph on the subject in German literature. The topics of Part I. are, in order, as follows: Philosophy of History and Christian Theology; Renascence of the ancient 'Historiosophy'; Political theory in the 16th century (Machiavelli, Bodin); *Regnum hominis* (Bacon, Hobbes); The English *Aufklärung* (Physical Science, Locke, &c.); Cartesianism; Scepticism in France (Bayle, &c.); Spinoza; Leibnitz and his time; Vico.

Die Axiome der Geometrie. Eine philosophische Untersuchung der Riemann-Helmholtz'schen Raumtheorie. Von Dr. BENNO ERDMANN, Privatdocenten der Philosophie an der Universität zu Berlin. Leipzig: Voss. 1877. Pp. 174.

An attempt to reconcile the conflict of opinions as to the analytic validity and philosophical import of the geometrical theories of Riemann and Helmholtz. Their import is exaggerated by some, and their validity is questioned by others, in a way which satisfies the author that they are misunderstood. He therefore seeks to explain the development and true character of the theories, and comes to the conclusions: (1) That their import, as far as *psychology* is concerned, lies in the confirmation they give to the empiristic space-theory of modern physiology; (2) that, in respect of the philosophical *theory of cognition*, they have only a negative value, as excluding the rationalistic view of space as the necessary and only possible 'form' of sensibility. They are consistent with *any* of the different forms of the experientialist theory of cognition.

Der Gegensatz des Classischen und des Romantischen in der neuern Philosophie. Von Conrad Hermann, Professor. Leipzig: Schäfer. 1877. Pp. 259.

(1) Classicism and Romanticism; (2) Kant's moral philosophy as related to the principle of Classicism; (3) Method of Ancient and Mediæval Philosophy; (4) Kant and Classicism generally; (5) The connection between the Later Philosophy and Poetry in Germany; (6) Aim of the history of the Later Philosophy; (7) German Philosophy and national life; (8) Philosophy of History as a basis of a Universal Philosophy; (9) Philosophy since Kant; (10) Hegel; (11) Materialistic Pessimism; (12) Teleological Philosophy; (13) Philosophy and its divisions; (14) The formal side and problem of Philosophy; (15) Philosophy and Religion.

Theorie du Fatalisme (Essai de Philosophie Materialiste). Par B. Conta, professeur de droit civil à l'Université de Jassy. Bruxelles: Mayolez. 1877. Pp. 312.

An explicit assertion of Materialism, dealing mainly with psychological phenomena, after a short consideration of social phenomena and a reference to physiological and physical phenomena. In a concluding chapter the theory of "Fatalism" is declared to be "perhaps the only philosophical system that explains and is in harmony with everything". The essay was first published in the Roumanian journal *Convorbiri literare* of Jassy, in 1875-6.

Die Naturwissenschaftlichen Grundlagen der Philosophie des Unbewussten. Von Oscar Schmidt. Leipzig: 1877. Pp. 86.

Hartmann's attempt to reinstate the teleological method in the biological sciences is here fully dealt with by a trained and skilful hand. The critic charges Hartmann with looseness in the selection of his authorities, with inexactness in the statement of facts, and finally with a complete misapprehension of the method and scope of modern science. He ridicules Hartmann's "method" of calling in the aid of a supernatural and quasi-spiritual principle whenever a physical phenomenon is not as yet fully accounted for by mechanical causes, and contends, for example in reference to Hartmann's discussion of Darwinism, that he fails to grasp the possibilities of explanation supplied by the physical causes to which the phenomena of life may even now be referred. Prof. Schmidt mentions by the way that rumour assigns to Hartmann himself the authorship of an anonymous publication *Das Unbewusste vom Standpunkte der Physiologie u. Descendenztheorie*, containing a very effective refutation of his teleology.

Anthropologische Vorträge. Von J. Henle. Braunschweig 1877. Pp. 130.

In these lectures, which though given before lay audiences consisting largely of women have considerable precision of statement and close-

ness of argument, Professor Henle, the famous anatomist, deals with a number of subjects psychological and metaphysical which are susceptible of being approached from the standpoint of a physiologist. These are 'Grace,' 'Faith and Materialism,' 'Natural History of Sighing,' 'Physiology of Emotion' *(Affecte)*, 'Taste and Conscience,' and 'Temperament'. Among many points of interest to the student of Psychology may be mentioned the definition of graceful movements as those "which reach their object with the least expenditure of means"; the conception of emotion and its expression as a form of "intellectual representation with nerve-sympathies," and analogous to the so-called "sympathetic" sensations and movements; and the attempt to arrive at a normal innate form for aesthetic taste and for conscience alike, as determined by the human type and made known by the sentiments of the majority. The essay on Temperament is curious as an attempt by a modern physiologist to give a truly scientific basis to the principal distinctions of temperament so long maintained by a now obsolete physiology. Henle reasons that there are various degrees of innate inherent activity or *tonus* in the sensory as in the motor nerves, and that these determine the different grades of natural sensibility. When this is low we have the phlegmatic temperament. The sanguine temperament (or "erethism") rests on a high degree of sensibility coupled with relatively rapid exhaustion of nerve. The choleric disposition on the other hand implies, with a considerable measure of *tonus*, a certain tenacity or persistence in nervous action. The melancholic temperament cannot be defined in relation to mere quantity of nervous action; it may be connected with a high degree of *tonus* and a special tendency to carry out the "sympathies" belonging to emotion rather than voluntary actions. The author, differing from Kant and Johannes Müller and siding with Lotze, is disposed to discard the supposition of special degrees of sensibility to pleasure or to pain.

XI.—NEWS.

Professor Gomperz, whose former communication to the Vienna Academy of Sciences (Philosophico-Historical Class), on Epicurus's doctrine of Volition was noted in MIND, No. III., p. 443, has now communicated (at the sitting of 28th February last) intelligence of an interesting discovery he has made at Naples, while examining the copies not yet published of the papyrus-rolls found at Herculaneum. The Roll numbered 1191 (without title) proves to be a new fragment of the treatise περὶ φύσεως, and, as it happens, a third transcript of the same book of which he formerly showed Rolls 697 and 1056 to be different copies. Comparing the third copy with the two others, he is able to add a number of new fragments besides filling in gaps in the passages known already. And the additions all have reference to the doctrine of Will, which is so peculiarly interesting in the philosophical system of Epicurus. Prof. Gomperz is now engaged on the examination of the original papyrus itself.

The subscription for a memorial to Spinoza having reached an adequate figure, the Central Committee at the Hague invites models of a statue and pedestal from sculptors up to the 1st October, 1877, the figure to be in the costume of the 17th century. The statue itself will be executed in bronze with a pedestal of hewn stone.

The first number of a new German journal, entitled *Kosmos*, appeared in April at Leipsic (Günther). It is edited by Drs. O. Caspari, G. Jäger, and E. Krause, and will work for the establishment of a philosophical theory of the Universe, moral as well as material, on the basis of the doctrine of Evolution. Mr. Darwin and Prof. Haeckel will co-operate, with a number of prominent German Darwinians.

JOURNAL OF SPECULATIVE PHILOSOPHY.—Vol. X., No. 4. J. Lachelier—'The Basis of Induction' (transl.). K. Schmidt—'Beneke's Educational Psychology' (transl.). K. Th. Bayrhoffer—'The Idea of Mind.' . . . Kant—'Ethical Worship' (transl.). Notes and Discussions, &c. Vol. XI., No. 1. J. Lachelier—'The Basis of Induction' concluded (transl.). J. Watson—'The Relativity of Knowledge.' . . . C. F. Goeschel—'Proofs of Immortality' (transl.). E. M. Chesley—'Does the Mind ever sleep?' . . . Schelling—'The Absolute Idea of Science' (transl.). Notes and Discussions, &c. No. 2. . . . S. S. Hebberd—'Orientalism of Plato.' . . . R. C. Ware—'Historical and Logical Relations between Fichte and Kant.' W. R. Morse—'Schopenhauer and Von Hartmann.' Schelling—'Scientific and Ethical Functions of Universities' (transl.). Goeschel—'Proofs of Immortality' (transl.). Notes and Discussions, &c.

REVUE PHILOSOPHIQUE.—2me Année. No. IV. Beurier—'Philosophes contemporains: M. Renouvier.' G. H. Lewes—'La Marche de l'Esprit moderne en Philosophie' (trad.). E. Naville—'Les Conditions des Hypothèses sérieuses.' Variétés—'La fête de l'humanité chez les positivistes anglais.' Notes et Documents—'Sur deux prétendus axiomes.' Analyses et comptes-rendus—Arnold, *La Crise réligieuse*; J. Gérard, *Maine de Biran*. Rev. des Périodiques. Correspondance. No. V. A. Gérard—'La Philosophie de Voltaire d'après la critique allemande.' Beurier—'Philosophes contemporains: M. Renouvier' (II.). Notes et Documents—'Une illusion d'optique interne,' par P. Janet. 'Cause et Effet,' par A. Main. Analyses et comptes-rendus. Rev. des Périodiques. No. VI. P. Tannery—'La Géométrie imaginaire et la notion d'Espace' (II.). Beurier—'Philosophes contemporains: M. Renouvier' (fin.). J. Delbœuf—Léon Dumont et son œuvre philosophique. Analyses et comptes-rendus. Rev. des Périodiques.

LA CRITIQUE PHILOSOPHIQUE.—VIme Année, Nos. 8-20. F. Pillon 'Kant et la philosophie du xixe siècle' (8); 'Le rêve idéocratique de M. Renan et l'utopie positiviste de la vierge-mère' (10); 'La critique de l'infini (Lettre de M. Boirac)' (13); 'Une formule positiviste du droit.' C. Renouvier—'Note sur le vice de la méthode des limites et sur la manière de la remplacer dans l'enseignement de la géometrie' (9); 'Les labyrinthes de la métaphysique: L'infini et le continu, Bordas Demoulin' (12); 'M. Cournot' (17); 'Note sur l'infini de quantité' (15); '*Le Cours de Philosophie positive* est-il encore au courant de la science'

(19). L. Penchinat—'L' évolution du droit selon M. Sumner Maine' (10, 11). C. Pellarin—'Reflexions sur le nervosisme' (19). Bibliographie: Examen des *Principes de Psychologie* de Herbert Spencer (I.). La métaphysique de la psychologie (14); Liard, *Des definitions géométriques et des definitions empiriques*, &c.

Philosophische Monatshefte.—Bd. XIII. Heft 3. E. Renan—'Spinoza' (übers.). Recensionen u. Anzeigen — Frohschammer, *Die Phantasie als Grundprincip des Weltprocesses*; Joël, *Beiträge zur Geschichte der Philosophie*; Berthold, *John Toland u. der Monismus der Gegenwart*; Lipps, *Die Metaphys. Grundl. der Herbartschen Philosophie*; Du Prel, *Der Kampf um's Dasein am Himmel*; Weller, *De tribus impostoribus.* Bibliographie, &c. Hefte 4, 5. J. Bergmann—'Wissenschaft u. Leben.' C. S. Barach—'Ueber die Phil. des Giordano Bruno.' G. Knauer—'Kant u. Fries' (Wangenheim, *Vertheidigung Kant's gegen Fries*). Recensionen u. Anzeigen—Vaihinger, *Hartmann, Dühring u. Lange*; Weis, *Idealrealismus u. Materialismus*; Schleiermacher, *Glaubenslehre*; Joël, *Religiös-philos. Zeitfragen*; Huxley, *Reden u. Aufsätze.* Bibliographie, &c.

Vierteljahrsschrift für Wissenschaftliche Philosophie.—I. Heft iii. K. Lasswitz—'Ein Beitrag zum kosmologischen Problem und zur Feststellung des Unendlichkeitsbegriffes.' W. Wundt—'Einige Bemerkungen zu der Abhandlung von Lasswitz.' A. Riehl—'Causalität und Identität.' C. Göring—'Ueber den Begriff der Erfahrung' (I.). W. Windelband—'Zum Gedächtniss Spinoza's'. Recensionen. Eine Berichtigung (W. Schlötel). Selbstanzeigen. Phil. Zeitschriften. Bibliog. Mittheilungen.

Zeitschrift für Philosophie, &c.—Bd. LXX. Hft. 1. Dr. Schloemilch—'Philosophische Aphorismen eines Mathematikers.' E. Grimm—'Malebranche's Erkenntnisstheorie und deren Verhältniss zur Erkenntnisstheorie des Descartes.' L. Müllner—'Wilhelm Rosenkrantz' Philosophie' (II.). Recensionen. Berichtigung (O. Liebmann). Erwiderung (G. Thiele). Bibliographie. Hft. 2. G. Schulze—'Zur Leibniz'schen Theodicee.' H. Ulrici—'Ueber eine neue Species von Philosophie.' Recensionen. Bibliographie.

Zeitschrift für Völkerpsychologie u. Sprachwissenschaft.—Bd. IX. Heft 3. J. Kradolfer—'Das italienische Sprichwort und seine Beziehungen zum deutschen.' H. Steinthal—'Ueber Mythen-Schichtung mit Rücksicht auf Goldziher, *Der Mythos bei den Hebräern und seine geschichtliche Entwicklung.*' H. Steinthal—'Offenes Sendschreiben an Herrn Professor Pott.' Beurtheilungen—Bagehot, *Ueber den Ursprung der Nationen* (Paulsen), Glogau, *Steinthal's psychologische Formeln*, Andresen, *Ueber deutsche Volksetymologie* (Bruchman).

Errata in No. VI.

P. 142, l. 6, for *1871* read *1870.*

P. 188, l. 25, for *vivify* read *vidify.*

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—FORGETFULNESS.

THE words 'forget' and 'forgetfulness' are used with more than one meaning. Dr. Noah Porter (*The Human Intellect*, p. 311) quotes the following from Stiedenroth:—

"Forgetting admits of several degrees or stadia. The first is a momentary displacement of an object apprehended, which is yet certain to spring back as soon as the object displacing it is withdrawn. The second is a comparative withdrawal of the attention, as when we divert our mind from a painful sensation, or as we say, forget it, in labour or play. The third is when an object will not present itself spontaneously, but we must bethink ourselves in order to recover it. The fourth is when we bethink ourselves in vain. The fifth is when it has vanished for so long a time that we question whether we can by any effort bring it back. The sixth, when we conclude that it is absolutely certain that we shall never recall it again."

To the above we may add that total forgetfulness occurs only when all record of the psychical phenomena thus forgotten has disappeared from the individual absolutely, not merely beyond all recovery, but so that there is nothing left to recover. Using a similitude, the invisible leaf of the book of memory has not become temporarily fastened to another leaf, nor been torn out and hidden with a possibility of recovery, but has been utterly burnt, so that its constituent parts have become scattered and have entered into new combinations with the neighbouring part of the universe. Without any similitude, if a man totally

forgets the contents of the leaf of a book which he has read, then there is no Disposition, Trace, or Record left with him in correspondence to the page thus forgotten. In giving this as an example of total forgetfulness, we do not mean, however, to imply that all effects of reading the contents of this leaf are forgotten or lost to the individual concerned.

Now a hypothesis has been mooted that total forgetfulness does not occur, and seems to have been simmering in the minds of many for some time; never yet proved, but often assumed. Once no one would have disputed that we forget, forget often, and forget totally. At present, it seems worth while to bring forward evidence that total forgetfulness is highly probable.

The difficulty of disproof is increased by the fact that we cannot distinguish between traces no longer remaining, and traces which remain and yet can neither affect our conduct nor be revived in any way. But we may bear in mind that the burden of proof rests on the shoulders of those who have originated the hypothesis in point.

Sir William Hamilton is responsible for its introduction to English experience (see his *Lectures on Metaphysics*, V. II., p. 212). The whole passage, pp. 211-214, must be taken into account, in order to see how the author quoted is forced to his conclusion. "The act of knowledge is an energy of the self-active power of a subject one and indivisible; consequently a part of the Ego must be detached or annihilated if a cognition once existent be again extinguished. Hence it is that the problem most difficult of solution is not, how a mental activity endures, but how it ever vanishes,"—and so on. Solving the problem, as he thinks, by means of the "latent modifications" he is unable to go beyond irrecoverable latency, and the lowest ebb to which he can imagine a cognition retiring is that "it may be absolutely lost for us in this life, and destined only for our reminiscence in the life to come". With Hamilton, the approach to forgetfulness is as of the hyperbola to its asymptote. The content of memory is supposed to diminish indefinitely without absolutely vanishing.

In Dr. Carpenter's *Mental Physiology* (c. x., on Memory, p. 429, 1st edition) we find the following:—"It is now very generally accepted by psychologists as (to say the least) a probable doctrine, that any Idea which has once passed through the mind may be thus reproduced, at however long an interval, through the instrumentality of suggestive action". This sentence is modified by "very generally," "may be," "which has once passed through the mind," and "probable," and counter-modified by "to say the least". At p. 453 we find—"It seems then to admit of question, whether everything that

passes through our minds thus leaves its impression on their material instrument"—"thus" referring to the permanent traces. Here we find at best only qualified and quasi-venturous denials of what might thus seem to be generally accepted, namely, that we retain traces of the whole of our past lives in our normal states.

There is a marked indication of a similar current of thought in Dr. Maudsley's *Physiology and Pathology of Mind* (p. 183, ed. 1867):—"There can be no memory of what we have not had experience of in whole or in parts; and nothing of which we have had experience can be absolutely forgotten".

In *What am I?* (V. II., p. 439), by a final flight of imagination, Mr. Serjeant Cox extends the permanence of traces far beyond the mind as follows:—

> "Suppose a man to be transported to different parts of space, with a knowledge of all distances, and provided with a telescope that would make all objects visible at any distance, such an observer would be omniscient." "Thus the universe contains an indestructible and incorruptible record of all the events of the past. They have been projected into the Ether, and are carried forward into space by the wings of light, actually existing in form and colour. The most secret deed that is done lives through Eternity. There is no act of virtue, no crime, that is not projected into heaven, painted upon space, and retained there for ever!"

It is but fair, on the other hand, to say that modern psychologists allow exceptions to this rule of permanent traces. Dr. Maudsley says of pain (p. 192)—"It is not the result of organisation but the token of disorganisation. How then should it be accurately remembered?" Before this he remarks that we cannot recall an emotion where the *form* has been almost lost in the commotion, quoting Shakespeare's "formless ruin of oblivion".

In fact no valid reason has ever been given why we should not recognise even in healthy individuals the existence of psychical storms of such a kind that traces of experience are destroyed wholesale during their continuance. During these storms, pleasures, pains and complex emotions connected with the memory of events may die out, not only beyond recall, but totally, leaving no trace behind.

The phrase "leaving no trace behind" is used with a purpose here. Hamilton introduced his hypothesis to English experience on metaphysical grounds which now would scarcely be accepted as valid. The hypothesis being successfully introduced, the grounds for its introduction are now forgotten, or at least it is not remembered that they would now be generally considered untenable.

On the other hand, the doctrine of Conservation of Energy

has become generally accepted by men of science, but unfortunately it has often become perverted to uses for which it was never intended. So again the notion of Continuity has been applied to discontinuous things, and above all, especially in psychology, the *effects* of events and the *records* of events have often become confused.

For a given event the record and the result need not be one and the same. A series of disturbances may combine to produce a certain result which is not their record, and such disturbances may be recorded by something which is not their result. If a person copy an extract out of a book, the extract is a record of what was in the book even though the book be lost, yet it is a result of the energy of the person writing and in no way depends on the quality of the energy of the book, potential or actual. On the other hand, if a book is condemned to be burnt, when there is no other copy like it or derived from it, the record perishes, yet the effect of the potential and actual forces of the book does not perish: far from it, the book becomes an agent in its own immolation.

To take another illustration: suppose two equal stones are thrown together into a pond, so as to fall into it at the same time but not quite close to one another; then the well-known waves increase in ever widening circles; where the two sets of waves intersect, the water at the wave crest is of double height, but where the crest of one wave meets the hollow of the corresponding wave from the other stone, the water remains at the original level. Of course this is only a very simple example of the interference of waves. Wherever waves interfere, then the record of the existence of the origins of these waves is necessarily imperfect at the time of interference. Yet in the case of the water the unaltered level, and in the case of interfering light the darkness, are results of the co-operation of the causes concerned. Had only one stone been thrown into the water, there would have been no interference until the waves became reflected from the bank, and then the record of the single event would have begun to destroy itself.

In the birth and destruction of relations there need be no violation of the Conservation of Energy; else, how could newspapers become printed? It is true that we can determine empirically the relation between the quantity of printed matter and the quantity of paper and ink used; but so also at some future time it may become possible to determine empirically the quantity of energy transferred in remembering and forgetting.

That every cause has an effect, and that all our actions have effects following through future ages of ages, has very little in

common with the supposition that all the records of our actions are preserved. They belong to different spheres of thought. If the records of particular actions are partially preserved through some results of these actions, so also they are destroyed in some measure through other results.

Taking Mr. Serjeant Cox's example of the indestructibility of the records of actions, it is sufficient to state that, although a book be full of printed matter, the mere fact of keeping it closed prevents any record of its contents escaping to the distance of a yard, much less therefore is it likely that the actions of Englishmen hidden by roofs and still more by clouds, can be seen by the most perfect human eye with all possible telescopic adjustments at the distance of the nearest fixed star.

Empirically it is found that the records of memory, like trees and fungi, are subject to growth and decay. And again, while admitting the probability that the law of Conservation of Energy is applicable to the records of memory, it has never yet been proved or attempted to be proved to be true of all the energies of human beings.

Some instances of forgetting where we bethink ourselves in vain, occur in Taine *On Intelligence*, Book II., c. ii., 'Laws of the Revival and Obliteration of Images' (where by Images are meant presentations or complex psychical phenomena corresponding to physical stimuli, not necessarily visual). In this chapter are given three conditions unfavourable to the Revival of Images:—(1) All that lessens the attention lessens the chance of revival: "a musket shot, the flash of a cannon, a painful wound, frequently escape attention in the heat of battle, and not having been observed cannot revive; a soldier suddenly finds he is bleeding without being able to recollect the blow he has received". (2) The want of repetition diminishes the chances of revival: we can seldom remember the pattern of the clothes of an individual with whom we have conversed only once, although we noticed it at the time. (3) Images grow dull by [varied] repetition: a man who could remember the image of a hen in a farm-yard well enough if he saw it alone, might not remember the image of any one hen if he saw a large number together, yet might easily remember an elephant or hippopotamus, because he has only seen one or two specimens, and has therefore a precise image.

Were perfect traces or dispositions corresponding with former experience to retain a place in the individual, we should find that where the original experience involved active use of the body, the revived experience would also be accompanied by active and passive elements in fair proportion of intensity between the revived and the original. Now this is not generally

the case. In remembering, the passive elements of experience are generally revived better than the active. If ever the active elements are revived in due proportion, we call the revival 'imitation' or 'acting' rather than remembering. (Of course all revival of the elements here called passive is active, but the activity in such cases is not the result of the traces of the original activity.) Even when the active elements have been restricted to attention, as in listening to a speaker or looking at a face, whenever these are duly revived the individual says no longer—'I remember hearing' or 'seeing,' but rather, 'The voice is ringing in my ears,' 'I see him before me in my imagination'.

There is little doubt that sometimes traces practically perfect remain for a time in the case of a good blindfold chess-player, as the American player mentioned by Taine (p. 311) who said, "I have never played a game without having played it over again four or five times in the night in bed with my head on the pillow"; or in an individual with good verbal memory like the young Corsican (quoted by Hamilton, V. II., p. 219, from Muretus), who could recite some thousand words in order, after once hearing them, and even give the first, third, and so on right through; or like the idiot mentioned by Mrs. Somerville, who could repeat a sermon *verbatim*, indicating also where the minister blew his nose or coughed during the performance.

Setting aside rare examples such as the above, which mostly concern the revival of visual or auditory phenomena taken separately, and which have become conspicuous for their rarity, we may hold in general that most of the traces or dispositions are deficient in elements ensuring adequately co-ordinated action, when they are stimulated so as to bring about a revival or reminiscence.

We proceed to notice other elements in which the traces or dispositions seem weak or deficient, so far as we can judge from normal states of the individual.

In the active lives of individuals, Selection plays an almost incessant part. For instance it occurs in finding the way, buying fish, obtaining the meaning of a word by aid of a dictionary, and in adopting a method of solving an equation. To select implies to reject and even to ignore. Of course we cannot be said to forget a circumstance which has never influenced our conscious existence even while we have ignored it—as a hidden mine near a footpath over sand-hills. Yet there have been circumstances, materials, words and selections of words, in correspondence with which we have experienced presentations, which nevertheless we have ignored and forgotten. With the increase of the extent and complexity of the relations implied in our knowledge, the extent and complexity of the

traces forgotten increases also. One who selects things, rejects, ignores and forgets things. One who selects ways of thought and action, rejects, ignores and forgets ways of thought and action, including the objects concerned therein. For example, if one orange seem the ripest in a basketful and so be chosen, the remainder probably become forgotten; in playing chess, crossing a large town, climbing rocks, or carving wood, men do not for the most part remember all the ways of action thought of tentatively, and then ignored. Using an old simile, the higher we climb the tree of learning the higher are the branches with twigs and leaves passed by, rejected and ignored. The larger the tree grows the greater is the number of branches thus rejected.

The power of selecting what seems useful, and ignoring what seems useless, is a most valuable aid to the advance of knowledge. We march to the battle with the unknown as little burdened by baggage as possible. In the process beginning with learning to read and continued until we understand Euclid, we first notice separate letters, then separate short words, then long words and short sentences, then we frame a symbolic method for ourselves by which we read the meanings of words rather than the sounds associated with them, the meanings of sentences and the meaning of a whole chain of related sentences. So that when we become familiar with Euclid's method, separate letters, words and even sentences are forgotten.

In writing out Euclid, the sentences become reconstructed in a way suggested by knowledge of the drift of the propositions and the style in which they are elaborated, rather than from any actual memory of the *ipsissima verba*. Also, in this way a word occurring in the original, *e.g.*, circle, need not result from the trace of the word circle originally read in the proposition now written out, but rather comes by association with the visual image known by that name.

In using the syllogism or reasoning in some similar way where two terms only are retained in the conclusion, the middle term is ignored for the time. If we did not thus ignore terms in using conclusions we should be compelled to remember all the terms of the syllogism, and worse still, all the terms of a sorites, and all the calculations in an arithmetical problem. This would be highly obstructive to the march of thought. Of course this process of ignoring for the time is no proof of utter forgetfulness, but it certainly aids any existing tendency that way.

Again, in the well-known process of selection from a classified arrangement, we find ourselves perpetually rejecting and

ignoring: thus Samuel elected Saul by rejecting tribes and families. With well-known classifications, the process of selection is often unconscious for the most part and so cannot be adduced here. Men do not consider whether a cuttle fish is a vertebrate, but begin by calling it a cephalopod. The process of looking out for a word in a large dictionary and then selecting the meaning apparently best suited for the passage in hand offers an example of selection from a classified arrangement, in which much is almost necessarily noticed and yet ignored.

The full verbal memory alluded to above as possessed by Dr. Leyden and others has its disadvantages. Thus, when Dr. Leyden wished to refer to a passage in anything he had heard or read (and remembered thus perfectly), he was obliged to go over a large part of the record in his mind before he came to the place required. So of the Corsican, Giulio Guidi, a passage is quoted in the note at the end of Hamilton's 30th Lecture to the effect that he produced nothing, for his unfortunate memory had killed all his creative faculty: "It is with the precious gift of Memory as with all other gifts—they are the curse of the gods when they give too much". The misfortune in these cases is not that the individuals remember, but that they remember what is of no use to them. They remember their experience rather than the conclusions they might have drawn from their experience. Nevertheless some of the most original minds have had gigantic memories—for example, Leibnitz, Euler, and Gauss.

Examples of good practical memory and therefore of good practical forgetfulness may be found in Galton's *English Men of Science* (p. 111):—

"Ex. 1. Next to no verbal memory but good for facts, small and great, which will fit into any chain of reasoning."

"Ex. 2. Of moderate verbal memory but strongly retentive of facts and figures, so far as they are related to any subject on or in which I am engaged."

"Ex. 6. Great memory for figures, can get up pages for examination before committees, and dismiss them from memory afterwards."

"Ex. 8. Never kept a diary. Can forget useless knowledge such as formulæ, rules, gossip, &c., very fast."

The evidence given by scientific men in this work seems to be in favour of what is called 'a good general memory'; but it ought to be noticed that, in its ordinary sense, this phrase does not refer to rejected middle terms, or rejected genera and species, rejected results of incipient comparisons, or names ignored or passed over in a long list; we do not think that we have forgotten them, for we do not think anything about them at all. Again, not many are aware that,

even though they are generally allowed to have good memories as a rule, such a good memory is of a special type in the midst of an ocean of forgetfulness. Suppose a classical scholar remembers words well, does he also remember pictures and strains of music? Or, again, supposing a musician remember what he has heard wonderfully well, as Mozart remembered the music of the Sistine Chapel, does he remember architecture, painting, poetry? Some remember the shapes of objects and yet have the greatest difficulty in remembering their colour, and so on. It is therefore easy to see that it is very likely for anyone to leave out of his reckoning the innumerable experiences forgotten by him, such as left only a slight trace on his mind at the time, while the only cases of forgetfulness which could leave a permanent impression, would be where he wished to remember and found that he had forgotten.

Forgetfulness occurs when there is a gap in the series of what we remember, as when a line of blank verse becomes missed out. Yet there are also two other distinct kinds: (1) When the disposition, trace, or record loses depth of meaning; (2) when it becomes distorted.

(1) Like a threadbare coat preserving its outward shape, and to some extent covering the body, but with a scantiness of thickness and consequently of warmth, or like a goodly apple rotten at the core, so there are words and sentences in habitual use having no longer their original depth of meaning; old associations, pleasures and pains have died out, the links between their traces and traces of other experiences have disappeared, yet the words remain and the individual is perhaps not even aware that they mean much less to him now than in former times.

In speaking or using words in thought, each sentence flows along accompanied by currents of deeper and deeper import. Isolate the words from the deeper currents of sense, the obvious meaning remains the same, or we may even use the words without noticing the meaning at all. It is when the obvious current of meaning remains that we may be most oblivious, that something may possibly be forgotten.

Sometimes we find ourselves reading words in this superficial way; especially when in a hurry, our eyes trace the words, and an accompanying sound seems to arise on our ears, yet the meaning is far from us. So men read words and phrases with the outward expression of deep emotion, although the depths of their feelings are not really stirred at all. The expression has survived the reality.

Sometimes, as in reading words apart from their meaning, we can forget for the moment without having anything like total

forgetfulness. So when approaching a perfectly familiar neighbourhood, we may cut off all old experience such as ought to be suggested by the view before us, and by imagining that we are going to a strange place put in appropriate accompaniments in accordance with our fancy.

Again, we may prevent ourselves from becoming unfit to discuss matters calmly by suppressing the accompaniments of recollections appealing to our feelings, although we may really act with full knowledge of the existence of these accompaniments. A surgeon while operating may suppress the memory of pain associated with a similar occasion, without in the least suppressing the knowledge of the relative painfulness of the parts concerned.

It will be found that we forget much that is convenient to forget by the simple process of not remembering when the opportunity occurs. A mass of recorded circumstance is connected with the record of an event which acts, so to speak, like a handle to the reminiscence. We know well that if we think about the event the recorded circumstance will become developed in reminiscence. We avoid thinking about the event, and the reminiscence does not follow, and so the traces lose one chance of renewed vitality. If, for instance, A knows that should he think of B who was in the same class with him at school he will also think of other class-mates, and then thinks no more of B, it follows that he has passed over one opportunity of thinking of his class-mates—of infusing life into the traces still preserved, and so has not made an attempt to arrest their natural decay.

Suppose, again, relations are better remembered than related characteristics, as the shapes of the boundaries on a map rather than the colours of the countries, or the time of an air rather than the timbre of the notes, or, *vice versâ*, the characteristics better than the relations as the colour of a patch of moss rather than its shape. We have the case of traces renewed unequally in normal conditions: it is still quite possible that such traces are revived equally well in abnormal conditions, yet it is not probable. It is much more likely that they have become decayed in some ways more than in others. This likelihood is made much stronger in the frequent cases where we wish for instance to remember the colour, and still only remember the shape with a colour supplied merely from imagination.

(2.) In forgetfulness by distortion we find the best proof of total forgetfulness. A schoolboy writing from dictation spells a word wrongly, his exercise is corrected in due course and the word is written rightly above the word written wrongly. But the boy, instead of forgetting the wrong spelling and re-

membering the right, or remembering both and distinguishing the right from the wrong, may remember the wrong spelling more firmly than ever under the mistaken impression that it is the right.

In endeavouring to remember odes of Horace learned years ago and repeated perfectly well some time after, we find that some seem entirely forgotten, some stanzas are forgotten, some transposed, some lines are transposed, some words missed out, and other words of equal length inserted. The more we try to remember the more clearly we notice that certain changes have taken place in the traces. Like names written on the bark of a tree they have become distorted by the change of years.

The transposition of traces of experience, especially of words and sounds, occurs so often that most of us can remember examples. The whole family of malapropisms is nurtured upon this peculiarity. One law is almost universally prevalent: if one of two words both occurring in one sentence is used for the other, it is supplanted by the other also in its own place, so that a transposition really occurs. Sometimes however the word inserted instead of the first becomes retained in its own place also and thus one word is lost from the record. This is like what occurs in the returns from a small town where the number of deaths is inserted instead of the number of births and retained for the deaths also. By transposition, as we find sometimes, a name has become attached to the wrong person, and a historical character is associated with the wrong date.

The third of M. Taine's causes of forgetfulness, where the images become confused through their number and variety, may be extended to images occurring without corresponding external phenomena, and thus be shown to be a most fruitful cause of practical forgetfulness. For instance, a hen may be remembered only vaguely, not because other hens are seen at the time or afterwards, but because other hens have been seen already, and so their traces have left their influence on the traces of this last observed animal.

If an old man try to recollect his own age of 76, it is quite possible that the traces of the adjacent numbers, 74, 75, 77, being already connected serially with 76, become so united that any one of them may be revived indifferently when he tries to think of his age. Again, one may forget the principal street of a village once visited not because the traces are really gone, but because there are other principal streets of other villages which present themselves equally readily to the memory.

Whenever the memory of an associated fact is as strong as the memory of the fact we wish to recover and the clue given by the

name affords no means of ascertaining which is which, we cannot possibly know which to adopt.

In illustration of the distortion of traces it is instructive to compare the visual phenomena *(Nachbilder)* derived from looking at bright objects somewhat steadily. Impressing the visual apparatus with the stimuli of light coming through a window divided into small panes and shutting our eyes, we can watch the after-image change in shape and fill up, gradually losing its original outline while the sensitive parts of the body concerned become renewed by the influence of the circulation. While the waning phantom changes slowly in shape the colours become complementary in turn, as first green, then red, then green again, and sometimes the shape becomes very different from the original.

Forgetfulness sometimes assumes the forms of exaggeration and multiplication of traces. Exaggeration is very common and by no means always voluntary. When the traces of our memory have not become adjusted to altered circumstances there is often virtual exaggeration, as, for instance, when the traces of what we have experienced in childhood survive, they are out of proportion with present experience. As a kettle seems longer in boiling to a child than to a man, it would be very pardonable if anyone were to say, "kettles used to take a longer time to boil when I was a boy"; and as of course a mile seems longer to a child than to a man, in revisiting old scenes, we think of a village as a long distance off, whereas anywhere else its distance would not seem great at all.

But apart from this natural want of adjustment there is a true exaggeration varying with different idiosyncrasies and different kinds of education: beginning with the appearance of bright objects and the loudness of sounds, it penetrates to the most important thoughts. It occurs in the mind of a child going to a pantomime, and forms a strong support to those who voluntarily submit their minds to the direction of others. Among half civilised people and among the insane, it occurs without restraint and leads to the wildest conclusions.

The multiplication of traces is not exaggeration although it may lead to it.* Thus the number of people in a room, of buttons on a coat, or of boots tried on in a shop, may become unduly increased in memory and hence exaggeration would follow. It would be an interesting investigation to ascertain how far and under what conditions this multiplication of traces

* Multiplication is of discontinuous, whereas exaggeration is of continuous, things. A drunkard who sees two moons multiplies, one who mistakes a haystack for a house exaggerates.

extends among men in ordinary health; of course in insanity, multiplication like exaggeration becomes almost boundless.

Sometimes it is possible to observe presentations in process of multiplication. I remember once, while awake in bed, seeing a large number of letter S's appear as visual phantasies and increasing with extraordinary rapidity. Something like this can be brought to pass voluntarily; for instance, a mathematician may imagine an equilateral triangle in one direction, and then another and then another and so on—in different apparent positions. This process is not very different from that by which a boy's after-image of the sun becomes multiplied through watching larks soaring on a fine day—the after-images occupying different positions because the eyes, and therefore the sun relatively to the eyes, have occupied different positions, and as they co-exist and occupy different positions, they are multiplied. So the S's mentioned above became assigned to different parts of space as the eyes were moved about, and the attention directed in different directions when the registering apparatus was in a peculiarly sensitive condition. Finally, wherever and whenever, as in comparison of visual sizes, we can transfer a psychical object by means of imagination from one part of space to another (psychically, of course) we run the risk of multiplying the traces of the object thus transformed, and often do multiply its traces in this way. In morbid states when the correctives of multiplication and exaggeration are in abeyance, the consequence is very marked in the conduct of the individual.

It is most probable that all untruthfulness even in imagination has an effect in distorting the traces of what has been experienced by the individual, so that one who deceives another *ipso facto* deceives his future self, that is, until the traces of the recorded consequent psychical effects have vanished.

We will now investigate Forgetfulness by another path. Individuals often remember clearly and well up to the time when they have to use their knowledge, and then when it is no further required, there follows a rapid and extensive decay of the traces. Many schoolboys forget their lessons after they have said them, many barristers forget details got up for a particular case. Thus a boy learns thirty lines of Homer, says them perfectly and then forgets them so that he could not say five consecutive lines the next morning, and a barrister may be one week learned in the mysteries of making cog-wheels, but in the next he may be well acquainted with the anatomy of the ribs instead. Sometimes the decay is retarded for some time after the use is over and then takes place. Practically we sometimes keep a matter in mind not exactly by attending to it but by keeping our attention referred to something connected

with it from time to time. Translating this into the language of physiology, we mean that, by referring attention to a part within or closely connected with the system of traces required to be remembered, we keep it well fed, so that the traces are preserved with the utmost delicacy. Of course, to do this we need not know how we do it any more than we know how thinking of appearances makes people blush, or thinking of a pain in some part of the body makes a pain seem to be there. If we think too much about a subject the parts concerned become too well fed; the traces improve certainly, but our recollection is consequently less like the original, although possibly of higher value except where the likeness is what is aimed at.

In illustration of the above remarks, we may compare the attention repeated from time to time in holding a glass of water in the hands for a short period: if we pay a moderate amount of attention we can hold the glass when it is almost full, but if we pay too much attention to our hands the tone of the muscles becomes altered, and the water runs over. None feel so restless as those who try to stand still.

Now when the use of a record is withdrawn, and attention is withdrawn from it and we think no more about it, we know that we experience a feeling of relief, and we thus may conclude that energy is in some way liberated. If the use is not withdrawn, and the attention is not withdrawn so that we keep the record in mind, we know that this feeling of relief does not take place, and we have no reason to suppose that any corresponding liberation of energy occurs. Also we are well aware not only that after this feeling of relief takes place the record does not seem conserved so well as before, but that we have real difficulty in attempting to remember it. Thus on the one hand there is liberation of energy to account for, and on the other the apparent degradation of the record. It is not rash, therefore, to suppose that the degradation is real, that the record is left to decay, and that the forces which would have tended to preserve it now become useful in some other way.

It is possible that there is great disproportion between the value of the thing forgotten and the direct value of the energy liberated, as great perhaps in some cases as between the value of the Alexandrine library and the value of the fire which burnt it. Still the fact that men forget knowledge they do not seem to require, and often forget it as quickly as possible, shows that the energy liberated is of some value.

In practical life where periodical forgetfulness and accumulation of memory occur, there is no improbability in supposing that an appreciable amount of energy can be locked up from

time to time with the memory, but within a tolerably definite limit, capable of increase to a certain degree by practice, so that the energy used to get up facts of one kind may be used to get up facts of another kind, provided the former become reduced to the level of the general stock of the individual's knowledge.

In different individuals the relative amount of this versatile energy must vary very much. This versatility of mind need not imply a larger energy than usual, but rather a larger amount disposable for the occasion of the moment and liberated again by speedy forgetfulness. So soon as it is liberated it seeks fresh fields and pastures new, and then, as men say, all is grist that comes to the mill. On the other hand, when knowledge is really assimilated so that it requires no direction of attention to keep it from rapid decay (such knowledge for example as is displayed in the ability to read and write or can be acquired at once on hearing of the death of a friend), there is little chance of forgetfulness liberating energy of use for further acquisition.

Putting together the results of common experience on this subject, we may suppose that, in analogy to the process of digestion, the process of assimilating knowledge calls forth an appreciable amount of force, and that we get into the habit of secreting or bringing into a suitable condition an adequate supply of force for the purpose. Suppose now the process of assimilation becomes arrested, the force still in process of secretion increases for a time, and so there is stored up a reserve in aid of future memory. So that it is not so much from the decay of the traces, as from the diversion of the forces used in strengthening the traces, that the power of making new traces is increased.

Further, using the same analogy, it is said that eating cheese helps digestion because it calls forth powers of digesting; so learning by rote improves the memory by calling forth powers of assimilation, which improve the general power of remembering when liberated.

Finally, our memories are like gardens, and the richer they are the more they require weeding. From this point of view forgetfulness is sometimes desirable. There are plenty of maxims current to help forgetfulness, for example, change of air. To these we may add the following general principle:— To forget an experience of any kind, fasten attention on the part giving least permanent interest—if this has present interest it is all the easier to do this: the temporary is remembered at the expense of the more permanent, and thereafter the latter is forgotten, while the temporary drops out from its own inherent want of interest.

We can aid forgetfulness artificially. Thus, in reading a

book, make an abstract, paying attention to the abstract: it gains in clearness but loses in colouring. The abstract is easier to remember at first, it is referred to and remembered, while the book is forgotten. But the abstract is really drier reading and less pleasant to remember than the book, and so having first pushed the book out of memory, it is totally forgotten sooner than the book would be. There is a parallel to the above, in the recipe how to ruin an artist. A picture dealer employs an artist to paint for him alone, then after paying well for some time and so depriving the latter of all his other connections, he lowers the scale of payment gradually until the artist is ruined.

For the present it seems unlikely that the constants of any equation of continuity for the different forces involved in memory are determinable (I mean such an equation as occurs in hydrodynamics between the influx, the contents, and the efflux). It therefore remains an unsolved problem how far the power of remembering may be cultivated without the judgment or the imagination suffering, or how much a general and a special memory may develop without hurting one another. Nor again, supposing a valid measure of the contents of memory found, do we know, beyond the fact that there is a possible maximum, at what time in life that maximum is reached, or how the time varies with individuals and races. And at any time the solution of the problem of the best possible memory ought not to be undertaken without a wide preliminary survey of the individual and social uses of human life. Without such survey, some plausible solution may urge the training of the memory in the wrong direction, the individual may be sacrificed to his memory, the memory of the general may be sacrificed to that of the special, and the memory enduring for years to the memory valid for a year, a week or a day. Thus, as has often happened already, the attempted training would do more harm than good.

R. VERDON.

II.—ETHICS AND POLITICS.

In Mind, No. VI., I stated that Utilitarianism, so far from being provable from Ethical data, is not an Ethical principle at all but a Political; the Law of Health of the higher organism or polity, and not the Law of Conduct of the unit members. My present object is to justify this statement a little more fully by considering the relationship of these two laws, and to suggest a practical test whereby to distinguish their respective spheres of operation.

First I must avoid a misconception. There is a branch of Law, unwritten and unenacted, of which the sanction is custom and public opinion of the class or society which adopts it, and which is best known as the Law of Honour and Fashion. It is in fact Rudimentary Law; and while some parts of it, being difficult to formulate or otherwise unsuitable for positive enactment, remain always rudimentary, other parts of it only await legislative, or (as in the case of English 'common law') judicial, recognition, to become integrated into the political structure. As an instance of a law so made, I may quote Mr. Spencer's explanation of the so-called 'Law of Exogamy' from a fashion of having foreign wives; as an instance of such law in the making I may name International Law; and for other illustrations I may refer to Sir H. Maine's *Village Communities*. This unwritten law or Law of Opinion was most unhappily termed by Austin 'Positive Morality'; and though he explained that name to mean merely certain "human laws" "without regard to their goodness or badness," the misnomer has produced much confusion; for when men hear of morality, they naturally think it must have something to do with moral goodness and badness. For the purposes of this paper I have only to state that this 'Positive Morality' is a branch not of Ethics but of Politics, part of the Art of Praising not of the Art of Acting. With this precaution I may proceed to the main subject.

Historically the unit necessarily precedes the organism, and Ethical facts therefore come before Political. Given tissue endowed with sensibility, that is, with the property of reaction under stimulus, and we have the raw material of Morality. For the only tissue which can continue to exist is that of which the reactions are such as to secure self-preservation, or in other words, the 'good' of the reagent. Next it follows that as, in the progress of evolution, tissues become at once differentiated and integrated into an organism, each retaining its proper reaction, the resultant action of the whole, partly by the ordinary laws of the composition of forces, and partly by the

continued operation of the same law of Natural Selection, (which is really nothing more than the identical proposition that those tissues or organisms live best whose properties are most conducive to life) is productive of the resultant 'good' of the organism. Meanwhile there is an inner or subjective side of this law of self-preservation, and this can only be described as the attainment of pleasurable consciousness; for pleasure is simply the conscious state which accompanies the due performance of vital function. Finally, Morality proper begins when not only is pleasure attained by action but through habit the idea or feebler excitation of the pleasure reacts so as to produce the action; in other words, when pleasure is not only attained but aimed at. If an organism has reached this stage, so as to be capable of intentional action, it is a moral agent though alone in the universe.

Next let us see what happens when the spheres of action of two such agents overlap. Clearly the resultant action is, as before, and by the operation of the same laws, the resultant of the two individual actions; and the resultant 'end of action' is the resultant of the two individual ends, determined in proportion to their relative forces. Now where circumstances are similar, the resultant action will also be similar; and as certain circumstances often recur, the corresponding actions also recur and through habit become a custom. This, as I said, is the rudiment of Law; and just as Morality proper begins when a spontaneous action is intentionally repeated by a personal consciousness, so Law or Politics proper begins with the conscious enforcement of custom by a central authority. Thus we see how, by the same law which makes the end of Morality the pleasure of the individual agent, the end of Policy, whether of Family, Tribe, or State, is the resultant pleasure of all whose action is represented.

I have thus very briefly sketched what I consider to have been the Order of Nature, but as this may be considered problematical, I prefer to address myself rather to the Order of Knowledge, and to prove my theorem from the actual history of Ethical and Political speculation rather than from any hypothesis of prehistoric evolution. Now, the order of knowledge being a retracing of physical evolution, while Ethical facts preceded Political, Political Philosophy naturally preceded Ethical. When man began to reflect, or turn his thought backwards, social organisation was already considerably advanced; and his reflection naturally commenced from the point at which he stood. The latest products of evolution were accordingly the first objects of inquiry. Law and Politics were the earliest studies, and human life and duties seemed bounded

by the conceptions of the Family, or Tribe, or State. These were the lowest units; the individual was not yet self-conscious. Thus we find that in all early societies the individual has no rights, only status; no duties except those implied by his relation to the tribe, or (in the more organised societies where some system of marriage has been evolved) to the family. If he sins he entails a curse upon his kin or tribe; if he requires punishment his wives and children suffer with him. They are his appurtenances; his individuality extends to them; and he is punished in them just as he is also responsible for them. The unit agent is in fact the family or tribe and, by whatever part of itself it does the act, the whole must be punished. So, too, acts which a higher morality rejects, are applauded if done for the public good: the severity of Manlius, the treachery of Jael, and the cruelty and duplicity of David are models of heroism. The Public Good, or Utility, is the standard of virtue; Ethics is not yet differentiated from Politics.

This absence of the idea of individual or personal morality is common to all early nations. Mr. Darwin (*Descent of Man*, Vol. I., p. 96) says, "Actions are regarded by savages, and were probably so regarded by primeval man, as good or bad, solely as they affect in an obvious manner the welfare of the tribe,—not that of the species, nor that of man as an individual member of the tribe". Nor is this idea of morality confined to savages; it was common to the most civilised nations of antiquity.

In Greece it is well known how political life absorbed all intellectual interest. A good man meant a good citizen (it was even doubtful whether a slave could have virtues at all); and the Greek view of moral education was summed up in the Pythagorean advice, 'Make your child a citizen in a good state'. To the Athenian or Spartan, individuality was a sign of political decay; Plato was careful to exclude it from his ideal republic. So too his *Republic*, a professed treatise on Morality, can explain the individual only on the analogy of the State, the less known by the better. And even when the molecular politics of Greece had been dissolved in a single all-absorbing state, the conception of man as a 'political animal,' deriving all his rights and duties from the state, was suspended rather than destroyed, and was ready to reappear on a fitting opportunity. The later Greek Ethics recognised indeed Individualism, but only within certain real or assumed limits; it never attained the conception of an individual *human being*. Its final word was still addressed to citizens, though of a city whose empire was the world: to the Stoic Antonines 'Citizen of the World' still seemed a prouder title than 'Man'. Greek Ethics was never completely emanci-

pated from Politics; Individualism reached the limits of the State, but not the limits of Humanity.

In early Rome, the lowest unit recognised was the Family represented by its head, who, like the Hindoo and Jewish father, had absolute power not only over the property but over the life and persons of his wife and children. But above the family was a higher status, that of Citizenship; and from this flowed all the individual's rights and wrongs. And even when conquest and the need of political assimilation brought in the later doctrines of 'Equity,' it was the equality of citizens of different states in plied by the adoption of the '*jus gentium*,' not the equality of individual men, which was at the foundation of the later Roman Law. The life of a citizen was indeed sacred, but the life of a barbarian was valued only as so much machine-power, and for the pleasure which it gave a Roman to see him die in the arena. It was not to Rome any more than to Greece that we owe the Individualism of modern life.

Among the Jews again in their early history, all interests and duties were centred in the Family and the Tribe. Both Religion and Morality were purely patriarchal. Jehovah was 'the God of their fathers,' jealous of strange gods, their tribe's representative and protector in the unseen world against the gods of other nations. And this external exclusiveness had its other side in internal solidarity: the unit was also an atom. Of individual rights or responsibility there is thus at first little trace: the sins of the fathers are visited on the children; the priest offers atonement for the people; the whole human race is held to 'lie in sin' because of a trivial disobedience by its first parent. Is a man to be rewarded? "Behold, I have made thee a father of many nations; in thy seed shall all the families of the earth be blessed." Is a crime to be punished? "Let the criminal perish with his wives and his little ones: let his children be desolate and beg their bread." Is a pledge of fidelity required? A man offers his family as hostages. Is a neighbouring tribe hostile or its territory wanted? "Slay both man and woman, infant and suckling, ox and sheep, camel and ass;" and forget not their gods—"burn their graven images also with fire"; "destroy their name from under heaven".

But after a while, as in Greece and Rome, the old patriarchal feeling gradually gave place to a vague consciousness of individual responsibility—the usual rule came to be, "The father shall not be put to death for the children, nor the children for the father" (Deut. xxiv. 16); though still on exceptional occasions the old spirit returned and justified itself as the direct command of God. Gradually, as Morality gained more hold, these exceptional outbursts became less frequent,

and even the prophets, who were always the mouthpieces of the old barbarous spirit against the new culture, began to say, "No man can deliver his brother, or make atonement unto God for him"; "The soul that sinneth it shall die"; "The righteousness of the righteous shall be upon him, and the wickedness of the wicked shall be upon him".

In this conception of Individualism the first condition of a true morality was gained. But the conception was still deficient in two directions. In the first place it was wanting in thoroughness; for though responsibility was personal, the standard was still external, and morality consisted in act not in motive, in a ritual of outward observances not in holiness of heart. In the second place its sphere was limited; for it extended to the Jews alone. But at last, and it is this which distinguishes the Jews from all peoples as the first moralists, these further conceptions were also attained. So far other nations had reached, for individualism within the limits of the state had been ultimately recognised both in Greece and, under the empire, in Rome; but the final step was reserved for that singular race of exceptional moral earnestness, whose earliest legend of man represented him as rebelling against authority in matters of morality, and selling his happiness for an ethical inquiry.

Of these final discoveries the former was first made by the last and noblest of the Jewish prophets, the latter by his greatest follower. Together they complete the basis of morality. The great message of Christ was on the one hand the worth and responsibility of the individual, on the other hand the inwardness of virtue. Of these the former was already, as we have seen, partially recognised; but the latter was in flat contradiction to the dominant religious doctrines of the day. "Woe unto you, Scribes and Pharisees, hypocrites; for ye are like unto whited sepulchres, which indeed appear beautiful outward, but are within full of dead men's bones and of all uncleanness." This was his message to the outward morality of action. Virtue is something more than obeying the letter of the law; it is in the heart, not in the act. The Sermon on the Mount was the Gospel of Inwardness.

Morality had become not only personal, but inward; Individualism was recognised as determining not only responsibility, but also the standard of action. It was thus made *thorough*. The only thing remaining was to make it *universal*, by eliminating from the conception of the individual all elements of race and nationality. This final truth, though foreshadowed by the teaching and the life of Christ, was first securely established by the great Apostle of the Gentiles. It

seems to me mere paradox to speak of St. Paul as the true founder of Christianity, and he himself would certainly have disclaimed such a title; but there can be no doubt that to him is principally due the spread of Christianity beyond the bounds of Judæa, and the widening of Individualism to the limits of Humanity. Thus it was St. Paul who finally emancipated Ethics from Politics, and for the old state-morality depending on particular social and political conditions substituted human morality, which depends on no conditions but those which are common to the whole human race. Christianity as preached by St. Paul was therefore the Gospel of Human Morality. Its maxims were universal, and thus at once human and potentially scientific; its standard was personal and inward, and therefore moral. The characteristic virtues of Christianity, forgiveness, repentance, modesty, humility, faith, hope, charity, are virtues of feeling, not of act; its greatest products—chivalry, the emancipation of women, the suppression of slavery, of suicide, of infanticide, and of the grosser forms of impurity—have been expressions of the right and dignity of the individual man.

The Christian Gospel was thus the starting point of Ethics. Henceforth there were two prolegomena to all possible systems of Ethics: (1) that the principles must be universal; (2) that the standard must be individual, and the intention, not the act, must be the object of moral judgment. In other words, Ethics must be entirely separated from Politics, must be founded on Psychology, and must result in some form of Individualism or Egoism. This, I believe, will hereafter be recognised as the true glory of Christianity, when much that now more peculiarly bears that name will have become obsolete and forgotten. No doubt the coarser forms of the appeal to Egoism in the fables of Heaven and Hell have been justly stigmatised as degrading to the moral ideal, but the significant fact is that such an appeal should be made at all as the foundation of a moral system. Christianity, as it has been too commonly taught, has no doubt been a low form of Egoism; but it has at least clearly recognised Egoism as the sole principle of action. Its error has been in forgetting the Hedonistic Paradox (if it be a paradox), the knowledge of which is a condition of rational Egoism, that Pleasure, like every other object of pursuit, cannot be attained directly but only through means; and that if a man is always thinking of the end, he is sure to think less of the means, and is thus likely to miss the object of his pursuit.

But although Morality was made self-conscious by Christianity, it was not at first systematised, much less explained. Moral Philosophy did not begin to exist till long after Moral Knowledge; not until Christendom had embraced the thinking

world, and men began to reflect on the maxims they had learnt. Even after reflection had begun, men were for long content with mere authority, and sought accuracy only in a multiplication of rules; but at last the need was felt for a *basis* of authority, an ultimate principle to be the court of final appeal. In the search for such an explanation of moral phenomena there came first an *a priori* attempt, like that of the pre-Socratic schools, premature and imperfect because unsupported by evidence, to explain the Moral Cosmos by a conjectural Atomism, or resolve it into a single element. Then came a Socratic era of inquiry into the nature of men's actual beliefs. These being found to be discordant, and the Introspective method being thus shown to be productive of no higher authority than Custom, the necessity was seen for psychological criticism, and this having shown that moral judgments are of the same nature as other judgments, Ethics became a portion of Ontology, affiliated to Psychology. Morality is of course still concerned with individuals, but it is seen that nothing can be known about the individual by self-interrogation; he and his morality must be studied through phenomena, and, like any other phenomena, from the outside and not from the inside. That there will be a Science of Ethics is a superfluous prediction; that it already exists I almost dare to assert.

Again, although I maintain that since the time of Christ the provinces of Ethics and Politics have been separated, I do not mean to say that this has been seen to be so, even by philosophers. On the contrary, the two have been greatly confused. Morality has been placed on a political basis, and asserted to depend solely on man's relations to his fellows, and to be determined by utilitarian consequences just as if Christ had never preached; and on the other hand an ethical justification has been sought for the State in a supposed social compact,* to the destruction of all political stability, and moral or equitable rules have been allowed to flow from the 'King's conscience' into judicial decisions and so into law, to the perversion of all legal consistency. Indeed I believe that the two sciences have never been accurately distinguished, and to that I attribute much of the uncertainty which exists in each.

This confusion I believe to be mainly due to the following facts. In the first place, Political like Moral actions are done through individuals, and it requires powers of analysis beyond those generally used to separate the different capacities in

* This is not only a fiction of political theorists but has been adopted in the ordinary legal text books. For instance, Blackstone (Book VI., Ch. I.) appeals to it as the foundation of that part of the penal law which deals with *mala prohibita*.

which a man is called upon to act. Hence those principles are welcomed and adopted which seem to offer a guide to all actions alike; and the consequence is a sort of compromise between Ethics and Politics. Like Pascal's Jesuits, men "contentent le monde en permettant les actions et ils satisfont à l' Évangile en purifiant les intentions". Secondly, this is increased by the fact that the official exponents of morality are the paid servants of society. "You ought to do this," men are told, and while the duty has often reference to the good of society rather than of the individual agent, it is enforced by an appeal to self-interest, multiplied indefinitely by the threats and promises of a future life. Thus moral sanctions are used to further social interests, and men are too idle to test the reality of the connection between them. Public education and a state-religion are useful political engines to extend to secret acts the observance of the penal law; but they are so by the very fact that they tend to obscure the distinction between the principles of Ethics and Politics. Thirdly, the very existence of a Science of Ethics (and its existence is assumed by common sense) implies not only inwardness but knowableness, that is, certainty. Now at first sight these two conditions seem inconsistent. If Morality be inward or subjective, and Science be concerned only with objective facts, it seems that the two can be combined only by the covert withdrawal of one of them. If Ethics looks only at motive, and Science only at phenomenon, how can there be a Science of Ethics? Accordingly the great division between modern ethical systems has been between the non-Ethical and the non-Scientific. On the one hand there has been the Intuitionist school, which while plainly Ethical is as plainly exclusive of Science, shuddering at the least suggestion of 'materialism': on the other hand the Utilitarian, which while in a sense scientific, as professing to give a definite standard of measurement, is, I maintain, clearly non-Ethical, hiding itself in Politics to escape the difficulty of motives, and bartering its birthright for a table of statistics.

Is it then impossible to combine the inwardness of Ethics with the objectivity of Science? I believe that this is possible, but only in one way. I believe that the Physical System of Ethics is a true Science, and truly Ethical, for it rests on the physical law of motive. It is 'objective' because it formulates a universal relation between impressed and expressed force; the result in each case varying with the machine through which the force is passed, but depending on a constant law, so that if the particular values were known the result could in theory always be predicted. It is 'inward' because it places morality in the motive or intention, and not in the act.

It is another question to determine *which* of these two, Motive or Intention, is the ultimate object of moral judgments. If (as seems the correct definition) Intention be the act willed and the sum of its foreseen consequences regarded objectively,* and Motive be the desire of or shrinking from each of those intended consequences, or, in other words, the intended consequences considered as pleasures and pains, and if Volition be the resultant motive issuing in act, or, as Hobbes says, "the last appetite in deliberating," then Intention is nothing but the sum of Volition and Motives regarded objectively, and the question is only between Motives and what I have called Volition. As to this, it would seem the more correct course to value the elements, and from them calculate the value of their resultant; but inasmuch as motives or consequences are good and bad only relatively to each other, and in due proportion, and as this due proportion is hard to determine except by consideration of the effects of the combination of different proportions, that is, of the nature of the resulting acts, it looks as if it might turn out the more practicable course to commence at the Volition and work back to the Motives. Still the consideration that the same Volition may result from different Motives, and have in each case a different moral value, according to the ends to which it is intended as a means, seems conclusive that its moral value depends on its constituent Motives, and that subtracted Motives do not balance one another so as to vanish in the calculation of the moral value of the resultant. We value an action according to its farsighted-

* I use Intention as meaning the intended act and its consequences, desired or the reverse, *so far as foreseen*, not as an act which would have involved consequences beyond those intended. In the latter sense Intention and Motive are very different, and the Intention may be good though both Motive and Act are bad and *vice versâ*. 'Intention' in this sense (which is that in which it is used in the penal law), is not an internal standard at all, and its use implies the application of an external standard to an internal act. It is therefore a chimæra, a mixed offspring of Morality and Policy; produced, as I shall explain, by the fact that voluntary action is the material on which Policy has to work. But *to Ethics*, Intention covers only the consequences actually intended; and in this sense it is the sum of Motives. For I deny that a man can intend a consequence without taking it into account as a motive for or against the action, though of course the resultant motive respecting any consequence may be nil, so as to make it an object of indifference to the will, and thus to make the contemplation of it inoperative as an end either for pursuit or avoidance. But the fact that opposing ends or motives balance, does not make them absent from the calculation, and they are represented not only in the arithmetical sum or Intention, but in the geometrical resultant, Volition, just as faithfully as physical forces are represented in the Will of Nature, which is Physical Law.

ness, that is, its extent and clearness of vision; but the same Volition might have resulted from a narrower view, in which case it would clearly have been less moral.* From the direction of motion we cannot discover the acting forces, but if we know the active forces we can infer the resultant motion. Hence the forces are the ultimate factors of the problem; and we may perhaps conclude that the morality of an act depends on the sum of its motives in their respective proportions, and is measured by the happiness to the agent which such motives acting in such respective proportions would normally produce in similar cases. This is, however, an irrelevant question: what here wants emphasis is the distinction between intended and actual result. The latter being independent of the agent altogether is no more moral than gravitation: where there is no Consciousness there is clearly no Morality.

It may perhaps appear that if Morality be founded on Evolution (which is the doctrine of the Physical System) it must contain many things besides motives, because Evolution proceeds in other ways, and good motives often retard it. To this I answer that Ethics is not the whole of Evolution, but that branch of it which is comprehended in the conscious action of individual men. An act or thing may no doubt in a sense be 'good' that is not the result of good motives; but not *morally* good or *right*. In one sense gravitation or any other natural fact is 'good'; but no one would contend that such facts are ethically or morally right. That seems to me to be the fallacy of a well-known argument of Natural Religion. It is no doubt true that 'whatever is, is good,' because the course of the universe is a course of evolution, which is what we consider 'good,' because it has produced us and tends on the whole to our happiness; but it is not true that 'whatever is, is

* Mr. Sidgwick (*Methods of Ethics*, p. 179) quotes against this the common sense maxim that "we must not do a bad action from a good motive". I do not see how this touches the question. The maxim must mean by 'a bad action' either 'one which we know to be bad,' or 'one which is really bad whether we know it or not'. If the former, it only says that an act which we know will bring more harm than good cannot be good, however small the surplus as compared with the subtracted quantities; if the latter, it is not a maxim of Ethics at all or warranted by common sense as such, (for if I have a good motive and do not know that the action to which it is leading me is bad, clearly it is my duty to follow it), but a maxim of Penal Law or Policy. It may be a necessity of police-law to punish pernicious actions though the agent be ignorant of their pernicious nature, just as it may be *politic* for the state to reward useful acts (as for instance in the case of informers) however mean be the motives which prompt them. If a man will *pay* either for reward or punishment, politically he deserves it: morally his desert may be very different.

right,' (if by right is meant morally right), unless it be *assumed* that all natural facts are self-conscious to some mind which understands and follows the distinctions of Human Morality. Morality means the conscious following of nature; an unconscious virtue is a contradiction or a metaphor, and by such metaphors Science is greatly retarded. Ethics may clearly be founded on Physical Law without being co-extensive with it; and is, as I define it and as commonly understood, the Science of the conscious or voluntary action of men considered as individuals in a medium of external relations—or, as I have otherwise called it, the Law of Conduct of Individuals. Similarly by Politics I mean the Science of the *voluntary* action of individual States considered either in their relation to their component members (Domestic Politics or Jurisprudence) or in their external relation (which from its most important branch may be called International Politics). So that Politics is a wider term in respect of States than Ethics is of Individuals, comprising not only their Law of Conduct which corresponds to Ethics but their Law of Health also. In the present paper 'Politics' and 'Policy' refer to the latter branch, which while it deals with individual men deals with them not as units but as constituent members of the unit state.

But it may be said that if confessedly both instrument and material as well of Politics as of Ethics lie in the actions of individuals, and if Ethical and Political maxims are not practically kept separate either by philosophers or in ordinary life, is it worth while to separate them at all, and if so, how is it to be done? To the first question I answer that unless they are separated it is difficult to get any consistent view of either Ethics or Politics, and clearly impossible to place either of them on anything like a scientific basis. To the second question I answer that there is a very simple and infallible diagnosis whereby we may at once test whether a maxim has an Ethical or Political origin. It has been suggested by what I have already said, and may be called the 'Test of Inwardness'. I suppose that a maxim is propounded dealing with the relations of a man to his fellows: then we know that this comes either from Ethics or Politics. To determine *which*, ask this question: Is it concerned with Acts or Motives?—(of course, I am speaking not of its grammatical expression, but of its inner meaning); if the former, the standard is external to the agent, or Political; if the latter, it is internal, or Ethical. For any motive or intention not expressed in act is politically indifferent, any part of the act not intended is ethically 'accidental'. The question of Ethics is 'Good or Bad,' the question of Politics is 'Guilty or Not Guilty?' Let us examine this a little more closely.

Crime is defined by Blackstone as "an act in violation of a public law"; by Sir J. Stephen as "an act punished by law"; and by Professor Amos as "an act which the State, for purposes of its own, resolves absolutely to prevent". Certain acts are judged injurious to the community and the doer is punished, whatever his motive, in order that they may not be done. But these are clearly not the same as immoral acts, as is evident from the well-known distinction between *mala prohibita* and *mala in se;* acts morally indifferent or even good are often penal,* while acts of monstrous immorality are not illegal. Nor are 'crimes' classed for punishment in order of moral wickedness. It is the harmfulness of an offence not its immorality which measures the price which it is worth while to pay for immunity. For instance, Treason is always placed at the head, and Treason may sometimes be morally right; if unsuccessful, however, it is held to be rightly punished, although clearly its moral value cannot depend upon success. Other instances will readily occur: the following is taken from Stephen's *Commentaries* (Vol. IV., p. 103):—"In the Island of Man this rule was formerly carried so far, that to take away an ox or an ass was there no felony, but a trespass; because of the difficulty in the little territory to conceal them or carry them off; but to steal a pig or a fowl (which is easily done) was a capital crime, and the offender punishable with death". No doubt there are certain ambiguous acts which vary in harmfulness according to what would have been their issue if completed; for instance, an assault may be either an attempt to murder or to rob; and in order to classify these inchoate acts, their meaning or 'intent' must be ascertained, an attempt to murder being clearly much more *dangerous* to the community than an attempt to rob, though it may not have done more actual harm. Hence it comes that in the penal law several classes of offences involve 'intent'.

But it may be urged that at least *our* criminal law goes further than that, for it makes guilty knowledge essential to a criminal act: "actus non facit reum nisi mens sit rea". Now I am clearly not bound to admit the policy of this rule because it is in our law: it came there not on philosophical grounds but partly from the old retributive notion of justice, and partly

* I do not mean that it may be sometimes our duty to break a bad law; but that a law may be good (*i.e.*, in *politics*) and yet punish acts which, at least without it, might be virtuous. The law against treason is a good law, though it may be in a bad State, and though rebellion may be a duty. Or take the prohibition against misprision of felony, which one can easily conceive it to be a man's duty to break, and which may still be a good law.

because the law has to be carried out by individual men who naturally import into it their rules of Morality and Religion, not having ever been instructed that the rules of Politics have any different foundation. How far this maxim may be in fact justifiable on true political principles seems to me a somewhat difficult question. On the one hand, it may be said that since it is on intention alone that punishment can operate there can be no punishable offence without unlawful intention. This is no doubt valid as respects acts which no additional motive in the agent would have prevented, such as acts forcibly compelled or where the agent is of defective understanding; but as to acts done in ignorance or carelessness, the answer is that punishment is to prevent *future* unlawful acts, and if punishing unintentional acts would prevent the occurrence of similar unintentional acts in the future, and clearly it would do so to some extent by making men more careful, that is exactly as proper an object to aim at as preventing intentional acts: for the acts however done are in their direct results equally injurious to the community. I do not see how this can be disproved. The question then comes to be one of *expense* merely. Would not the price we should have to pay for the small additional security be too great? for clearly the same punishment would produce a much smaller result in preventing unintentional acts than in modifying intentions, seeing that it is more difficult to alter a character than to prevent a single act. To this must be added the danger of depriving the criminal law of the moral sanction; for if morality and policy do not work together the practical weight of both is lessened.

But taking the maxim as it is, and as interpreted by English law, I would remark in the first place that it is a maxim only of *penal* law. Secondly, it is very far from meaning that even for penal purposes criminality is to be estimated according to moral wickedness, (for even *mens rea*, or *guilty* intention, by itself is not penal, much less an *immoral* intention); or that there can be no guilt *without* moral turpitude. All that it means is that a man is not to be punished unless he intended to do an unlawful act; punishment having for its object to prevent unlawful acts and operating upon intention. Nay it does not mean even this; for a man may be punished for acts which in no ordinary sense of the word he ever intended at all. Acts caused by heedlessness or negligence, which is the very absence of intention, are criminally punishable; and unforeseen consequences are held imputable on the ground that they were 'constructively' intended. For it is well settled law that if a man intend an unlawful act, but the result goes beyond his intention, he must take the consequences; if a thief fire at a

fowl and kill the farmer, that is murder. Nor is ignorance of facts an excuse; if a man set fire to a cow-house, not knowing that a cow was in it, he may be convicted of 'maliciously burning' the cow. In some cases, actual *mistake* as to facts has been held immaterial; for instance, in a late case before the Court of Criminal Appeal composed of 16 judges,* it was decided that a man was rightly convicted of abducting a girl under the age of sixteen, though it was proved that he *bonâ fide* believed, and had reasonable ground for believing, that she was over that age. Nor again is ignorance or mistake as to law any excuse; if the intended act was in fact illegal, the doer is criminal and punishable. Nor finally does drunkenness exculpate in the law courts, though clearly, if not designed for an ulterior wicked purpose, it takes away the moral responsibility for any act beyond itself.

The result of English Common Law seems to be, that if there be an act both intended and committed which is in fact illegal (whether to the agent's knowledge or not), or reasonably likely (as in the case of drunkenness) to lead to acts in fact illegal, then the agent is criminally responsible not only for the act committed so far as intended, but for all acts or consequences which naturally flow therefrom, however unintentionally or even contrary to intention; but that if the intended act be wholly legal, the agent is unpunishable for any involuntary results. Whether this state of law be or be not defensible on principles of Policy or 'Police,' is, as I have shown, a delicate question; I believe that on the whole it is; but it is at least evident that in the actual law of crime which obtains in this country, "the moral nature of the act," as Sir J. Stephen says,† "has nothing to do with the question". The question is clearly one of Politics, in which the only thing considered is the *event;* although it is no use trying to prevent an event *by punishment,* unless it is an *act,* and so far intentional that the knowledge that such an act would be punished might possibly, if present, have operated to prevent it. In other cases, punishment is not the proper remedy, and some other mode of treatment must be devised: but if there be intention, punishment is not restricted to the intention in the Ethical sense, but extends to all the

* *Reg. v. Prince,* Law Rep., C. C. R. 154. As to the amount of knowledge necessary in a person labouring under insane delusions, see *M'Naghten's Case,* 10 Cl. and Fin. 200. If he knows he is doing a wrong act, that is sufficient.

† *Criminal Law of England,* p. 5. I may add that formerly (until 9 Geo. IV. c. 31) accidental homicide without *any* illegal intention was punishable by English law; and this was common to most ancient laws. See *Blackstone,* Book VI., Ch. 4.

actual consequences of the intended act. So that even for *penal* purposes it is not that the outward act is judged by its inward 'Intention' as is the case in moral judgments, but that the inward act or intent is judged by its outward consequences. The standard of judgment remains external.

But further in the question of criminality, although the Intention has to be examined so far as to discover some illegality, when this is once found the rest is immaterial; for while the illegal intent may take colour, as we have seen, from unintended accidents, it cannot be cured or atoned for by the remaining intentions with which it was bound up. Or, to use words less strictly accurate but perhaps more generally understood, whatever be the importance of Intention, Motive is clearly immaterial. Is the act harmful? If so, it must be prevented. Was it in this instance actually or 'constructively' intended? If so, punishment is the proper remedy. That is the whole question of 'Guilty or Not Guilty,' and on that question, as juries are continually told, Motive is irrelevant. An act of heroic virtue may be a crime: and though the law tries to make itself look moral by means of an 'irrebuttable presumption' of malice, that is clearly only a legal fiction, just as the law calls 'fraud,' what common sense thinks only an error of judgment.

The only remaining question then is as to the *degree* of punishment. Now in determining this, a consideration of motives necessarily comes in, because motives are at once the material and the instruments with which punishment has to deal. An apt illustration of this was given by the late conviction of Mr. Bradlaugh. The indictment was "that the defendants unlawfully and wickedly devising and intending to vitiate and corrupt the morals of youth and of others did publish a certain book," and the Lord Chief Justice directed the jury in these words—"If you are of opinion that this work will have an effect (however it may have been intended) subversive of the morals of society it is your duty to find the defendants guilty". The verdict was—"We find that the book is calculated to deprave public morals, but we entirely exonerate the defendants from any corrupt motives in publishing it". Thereupon the Lord Chief Justice directed them as follows—"Upon that finding you must find the defendants guilty, for I have already explained to you that if such was the effect of the book, as the intention of the defendants certainly was to publish it as it is, if you found that it was in fact calculated to deprave public morals, even though the defendants have no intention to do so, it would be your duty to find a verdict of guilty, though your exonerating them from any bad intent would be considered in

the sentence";* a direction which was afterwards upheld by the Court of Queen's Bench.

On this last point, namely, quantum of punishment, it hardly needs remark that if the motive be good and also gentle, there is no need to counteract but only to direct it into a new channel. But there are more difficult cases where the motive is of overpowering strength and cannot be easily directed. Now the motive which punishment is designed to supply must clearly be proportional to the normal motives which it is intended to counteract. The punishment should therefore be greater in proportion as the motives prompting to the injurious act are greater, unless, as for instance in some cases of monomania and insanity, the preponderance of the latter is so great that it would be hopeless or too costly to outbid them. In the last case there should be no punishment at all, for useless expenditure of pain is not only cruel but clearly wasteful and impolitic. The two elements of harmfulness and temptation come in to determine the price to be paid for immunity much in the same way as the two elements of demand and cost of production determine the price of an article of commerce. Free trade in Punishment is a first principle of what I may call Penal Economy, because if the punishment be inadequate the crime will be committed: unless the state is willing to give the market-price, it will not effect its purchase. So that in considering the quantum of punishment motives do come in, but with a result *contrary* to that which they have in Morals, where great stress of motive is generally held to *diminish* guilt. Nay the very goodness of a motive may require severer punishment, as being more seductive of imitation; an illustration of which I may quote from a Scotch judgment referred to by Sir J. Stephen (*Criminal Law of England*, p. 102): "We have heard a good deal of the innocence of his intentions, but supposing he has acted from principle and that his motives are pure, I do say that he becomes a more dangerous member of society than if his conduct was really criminal and he was acting from criminal motives."

It may perhaps be objected that this refusal of Law to look at Motive comes not from principle but from its practical inability to get at the facts. No doubt in order to form any judgment, Ethical or Political, we must *in practice* stop somewhere and say that beyond this line the consequences, intended or actual as the case may be, are too remote. To settle the question therefore as to the nature of the judgment we are led back to the classification of crimes, that is, to consider whether up to the point to which Law confessedly goes it proceeds on

* *Times*, June 22nd, 1877.

Ethical or non-Ethical principles. This question I have already answered, but I will here give a further illustration of the statement that criminality depends not on immorality but on danger to the state, namely, the Law of Conspiracy, by which an act, which if done separately by individuals would be harmless and so permitted, when done in concert and thus becoming a possible source of danger to the state, is punished as criminal.

To sum up:—Politics is primarily concerned with acts and considers motives only as a means of producing acts: Ethics on the other hand is primarily concerned with motives, and looks at acts only as evidence of motives. The same act has always the same political value, whatever the motive of the agent; but ethically it may be good on one occasion and bad on another. Hypocrisy may be politically a virtue, if a man's acts be better than his heart, but ethically it is a vice, for the intention is to deceive. If a judgment therefore be of Motives it is (or may be) a moral judgment; but if it be of Acts it cannot be moral, but must be a judgment of some other judicature.

I contend therefore that I have established this Test of Inwardness as a true method of distinguishing a sample of Morality from a sample of Policy. Let me now apply it to Utilitarianism. Are Acts or Motives the subject-matter of Utilitarian principles? Surely there can be but one answer.

Suppose a living being and an automaton doing exactly the same acts, the latter would be evidently just as useful, and would therefore on consistent utilitarian principles be just as virtuous as the former. This indeed seems virtually admitted by Utilitarians. "Utilitarian moralists," according to J. S. Mill (*Utilitarianism*, p. 26), "have gone beyond almost all others in affirming that the motive has nothing to do with the morality of the action, though much with the worth of the agent. He who saves a fellow-creature from drowning does what is morally right, whether his motive be duty, or the hope of being paid for his trouble: he who betrays the friend that trusts him, is guilty of a crime, even if his object be to serve another friend to whom he is under greater obligations." This is the true *political* view, but surely the casuistical doctrine that if the outward act be in itself not necessarily bad (*e.g.*, inserting your hand into another's pocket, closing your fingers and withdrawing it), the commission of it is venial whatever the motive (*e.g.*, the appropriation of the other man's purse), has long been branded as supremely *immoral*. In a note to the passage above quoted Mill draws a distinction between Intention and Motive, and says that the morality of an act depends on the former but not on the latter. But his instance of Intention as distinct from Motive, a man

rescuing another from drowning in order to kill him by torture afterwards, seems to me indistinguishable from his instance of Motive, a man rescuing another in order to receive pay, or betraying one friend in order to serve another. Surely the receiving pay or serving the second friend is just as much part of the Intention as the inflicting torture. In ordinary language Motive is perhaps distinguished from Intention as involving the remoter instead of the more immediate consequences, but it is impossible to distinguish them strictly, for, as I have said, Intention is nothing but the Act and the sum of its Motives looked upon objectively, and there is clearly no line to be drawn between the nearer and remoter consequences when both are equally foreseen. But what Mill seems (judging from a reference to Bentham) really to mean by Intention is the intended act with all its consequences whether intended or not. If so, his doctrine seems to me both *immoral*, for the morality of an action is clearly unaffected by its turning out contrary to intention; and also *impolitic*, for an act is just as useful to the community whether it be intended or not. It is an attempt to compromise between Morality and Policy, characteristic of an English thinker, but totally unphilosophical. However Mill at least confesses that morality lies in the act and not in the agent, although he seems to place it in a hypothetical act which neither happens nor was intended. This is in itself a sufficient admission that Utilitarianism is a principle of Policy, not of Ethics.

The political nature of Utilitarianism is still more apparent in Bentham, who may be called in a sense its founder. Private Ethics comes in only as a cheaper kind of Penal code where legislative influence would be unprofitable. If Ethics is regarded as independent of Politics, as Bentham could not help seeing that it might be regarded (*e.g.*, *Principles of Morals*, Ch. XIX., § 1, Par. 20) it then ceases to be Utilitarian; for it teaches "how each man may dispose himself to pursue the course most conducive to his own happiness," while it is the "art of legislation" which pursues "the happiness of the whole community". So that if Ethics be separated from Politics, Bentham admits that Utilitarianism is a maxim of the latter and not of the former. The object of Politics, he says, is Greatest Happiness; that of Ethics is well understood Interest: I agree. But he added (at least as interpreted by Bowring) that the two are identical: this I deny, except in an ideal society. In the present universe they are widely separate.

So far as I know, it is true of all Utilitarians except Mr. Sidgwick that they start from Politics and arrive at Morality through Law. Mr. Sidgwick starts from popular moral maxims many of which, as I have said, though they may be

called 'Morality,' are in effect rudimentary Law. Nobody has ever reached Utilitarianism through Psychology. Beginning with Helvetius, who thought virtue a political product not only as depending on the social constitution (which was the Greek view) but as being capable of artificial manufacture by legislative means, the same tendency ending in the same result runs through Bentham, Austin, Mill, and cannot be more definitely stated than in an article on 'Metaphysical Study' in the *Contemporary Review* for April last by Professor Bain. "Through Sociology," he says, "is the way to the great field of Ethics;" again "Ethics is an important supplement to social or political law, but it is still a department of law"; and he compares the relation of Ethics to Politics with that of Physics to Mathematics. No wonder then if the child is like the parent, and if Morality which is made out of Policy remain mere Policy still. The moralist is thus merely a state-functionary, and his only practical duty is to guide the distribution of praise and blame.

It would not be difficult to illustrate this also *a posteriori* by showing how maxims to which Utilitarianism leads, are clearly at variance with the first principles of Ethics. I will merely refer in passing to Mr. Sidgwick's *Methods of Ethics*, pp. 451, 452. One does not wonder that he admits that "in some points Utilitarianism is manifestly at issue with common sense"; I add 'and with Morality'.

But it may perhaps be objected—'In rejecting Utilitarianism from Ethics because it deals with acts and not with motives, you are forgetting the distinction on which Utilitarians so much rely between Motive and Criterion. We agree that Virtue consists not in the usefulness of acts, but in obeying the best motive; only we add, the best motive is the wish to do useful acts. Utility may thus be the test of virtue, and yet the motive be internal.' To this I answer: Granting your assumption of the existence of such a wish, the motive is gratifying the wish, and therefore ethically Utilitarianism can come in only as a method of Egoism; and clearly not as the whole of it—for no one can assert that the wish for Utility is his *only* wish, so that there must be some portion of Ethics which is outside the wish for Utility and superior to it. Utilitarianism, to establish its claim to be the ruling principle of Ethics, has to *assume* not only a wish for Utility but that no human being ever had any other wish, which is absurd.

Besides a man is not omniscient, and does not know what is really useful. There must therefore be many cases where the wish for Utility leads to injurious acts, and also where selfish motives lead to useful acts. Are the former ethically better or

worse than the latter? I cannot conceive any ground on which the Utilitarian can say they are better, unless he makes his standard or 'test' not Utility but our love of it, in which case he becomes an Egoist. Unless therefore he acknowledges Egoism, he must either assert that Morality is independent of Intention or Motive, which is his natural position, but which is a doctrine not of Ethics but of Politics, or he must deny the dilemma by assuming not only that every man wishes only Utility but that he knows exactly what is useful and what is not, which is again absurd.

The foregoing criticism is applicable to that doctrine of Mr. Darwin's (generally taken as the Evolutionist theory) which traces the origin of the Moral Faculty to the Social Instinct alone, and thereby makes Utility the criterion or measure though no longer the conscious motive of Morality. This hypothesis I conceive to be not only unsupported by evidence but in direct contradiction to the facts which it professes to explain. If Morality be social only, whence comes the belief that there is something higher than Honour,—nay that there is an end more worthy of attainment than the united applause of humanity? Is it not true that Honour is often opposed to Virtue,—nay is it not then strongest when it knows itself to be immoral? The social environment is in my view only one, although in some respects the most important, of the circumstances which have constituted human experience, and built up man's moral and intellectual faculties; and has contributed no more than its due share to the formation of Conscience. A man's Duty to his Neighbour is no doubt an important part of Morality; but is there no such thing as his Duty to Himself, to Nature, or to God? and if there are such Duties, how could they possibly arise from any 'Social Instinct'?

Again, if the Moral Faculty is only an organised 'Social Instinct,' whence comes the meaning of 'ought' and the authority of Conscience? Why should the Social Instinct have any preference over other instincts? To say that it is 'more permanent' seems to me both untrue (for to take an example from Mr. Darwin himself "the wish for another man's property is as persistent a desire as any that can be named") and of no avail for the argument. For why should permanence imply authority? Mr. Darwin seems to rely on experience of the disagreeable *consequences* of preferring a lower to a higher instinct, but surely if that be so, it is those consequences which constitute the immorality, and the authority of conscience depends on the pleasure or pain it can promise. To put the argument in a slightly different form, I contend that if the moral faculty be evolved from a part only of the emotional or motive part of

man's nature and be not the resultant of the whole of such motive nature, then it is impossible to account for the authority of conscience over motives which lie outside it. The only true source of the authority of conscience is in universal representation; if it is the resultant or representative of every motive it has clear 'right' and 'authority' over individual motives, but if there is any not represented in it, then if it be victorious it is the victory of might, not of right, and we have no reason to wish for its victory rather than defeat.

This difficulty of supplying a motive has been felt by all Utilitarians, and it will be found, if I mistake not, that all of them when brought to the test are obliged to have recourse more or less openly to the doctrine of Egoism, and thus to give up their principle altogether. I will give a few examples. Austin (*Jurisprudence*, Vol. I., p. 112) says:—"The theory" (of Utilitarianism) "be it always remembered, is this: Our motives to obey the laws which God has given us are paramount to all others. For the transient pleasures which we may snatch, or the transient pains which we may shun, by violating the duties which they impose, are nothing in comparison with the pains by which those duties are sanctioned. The greatest possible happiness of all His sentient creatures is the purpose and effect of those laws." Thus Utility is reached from Egoism through the will of God. Paley, as is well known, explicitly adopts the same view. J. S. Mill (*Utilitarianism*, p. 53) says:—"No reason can be given why the general happiness is desirable, except that each person, so far as he believes it to be attainable, desires his own happiness"; and (*Ib.*, p. 56) "Virtue according to the Utilitarian conception is a good of this description. There was no original desire of it, or motive to it, save its conduciveness to pleasure, and especially to protection from pain. But through the association thus formed, it may be felt a good in itself." Bentham commences his *Principles of Morals and Legislation* in these words—"Nature has placed mankind under the governance of two sovereign masters, *pain* and *pleasure*. . . . On the one hand the standard of right and wrong, on the other the chain of causes and effects, are fastened to their throne. . . . The *principle of utility* recognises the subjection, and assumes it for the foundation of that system the object of which is to rear the fabric of felicity by the hand of reason and law." Mr. Darwin's reference to consequences I have already noticed. Also when seeking the origin of the social instinct to which he refers morality, he appeals first to the experience that aid to others brings aid in return, and secondly to the love of praise and the dread of infamy—purely self-regarding motives (*Descent of Man*, Vol. I., p. 163). Mr. Sidgwick's attempt to

prove Utility by the "suppression of Egoism" I dealt with in my former paper. From his short reply in the last number of MIND it seems that he never really meant to "confute" (or, I suppose, "suppress") Egoism at all, but only to "contradict" it by an appeal to "the common moral consciousness of mankind" which he exemplifies by the popular belief as to "the design of the Creator of the world". I admit that I took his arguments as seriously intended to "suppress," which I thought meant to "confute" Egoism, and that I did not at all realise that they were only meant to serve as a cover for the introduction of the *deus ex machina*. Even now I cannot quite see how, if the reasoning is bad, it is of more avail in contradicting than in confuting; nor do I see either how Mr. Sidgwick reconciles the "Dualism of the Practical Reason" in which this contradiction leaves him with the "postulate of the Practical Reason" which he mentions (p. 10), "that two conflicting rules of action cannot both be reasonable". However it is now at any rate clear that Egoism is NOT "suppressed"; and as for contradiction, it will not much care for that, until backed by some more tangible argument than any "common belief" about "the design of the Creator of the world".

I have now offered some justification of my statement that Utilitarianism was a principle not of Ethics but of Politics, and I have done so chiefly by a consideration of the course of Political and Ethical inquiry. In conclusion, I would briefly summarise my view of the scientific relation of Ethical and Political facts. I have already sketched their historical sequence; I now refer to their co-existence. Each man follows what at the moment of action seems to him his greatest pleasure; in other words, he does as he likes. This is an absolute physical law, and so far do I assert the 'Freedom of the Will,' that I contend that a man can no more do what he does *not* like than he can disobey the Law of Gravity. A man therefore is good or bad according to the number and quality of his likes and dislikes, namely, as these serve to extend the correspondence of his actions to his medium in time and space; and in the same man an action is good or bad for the same reason, that is, according to the likes and dislikes which it represents. Now the most important medium is the social; no wonder therefore if a man's actions be mostly regulated by his relations to others. Moreover society is not only a 'medium,' but a higher organism of which the individual is a part. Now families, and associations, and nations, nay even universes (for the principle is universal), which have no 'Utilitarian' habits, die; being organisms whose actions do not tend to self-preservation: and if they die, their members perish with them.

Hence a certain amount of Utilitarianism is a necessary component of Egoism. But these higher organisms are also consciously active, and for their own purposes modify the actions of individuals by attaching to them certain consequences which the agent is sure to like or dislike. In these various ways, different Utilitarianisms corresponding to the different organisms of which a man is member become parts of his Egoism; but it remains true that they enter into his Morality only as methods of Egoism, and that man is the best who is best in correspondence with his whole medium. To any particular society forming part of that medium his correspondence may be that of antagonism, just as it is to excessive cold or heat. The expression of this antagonism is 'moral courage'; for, as has been well said, Law brings fear from without, but Morality makes men brave from within.

Finally, I would repeat that I have used the word Politics to mean internal and not external or international Politics, the Law of Health and not the Law of Conduct of the Political organism. With regard to the latter I would only say that it is exactly analogous to Ethics, states being substituted for individuals as units. Motives therefore are its subject-matter, its characteristic is Inwardness, its principle Egoism. The duty of a nation to its fellows is in my opinion exactly similar to that of an individual in a similar state of society. The last qualification is no doubt important, because a more perfect altruism is possible and justifiable in a highly organised than in a rudimentary state of society. There can however be little doubt that international organisation has in Europe reached such a degree, that a nation sufficiently strong to protect its own individuality will find its own best interests in altruistic policy, in being willing to further the happiness of mankind by a temporary disadvantage to itself, and to spend money and trouble for objects that bring in no immediate return. For my part, I cannot understand how men who think so highly of unselfishness and generosity in individuals should have nothing but ridicule for the same qualities in nations. At any rate it seems to me as certain as anything can well be that if they are not virtues in the one case they are not in the other. If a man will not stretch forth his country's hand to succour the oppressed and disable the tyrant, why should he lift his own to rescue his neighbour from murder or his daughter from outrage? Yet this seems the stage which our national conscience has at present reached. The British 'Ego' has attained only to that lower egoism of 'British interests,' which for morality is content with the Pharisaic observance of treaties and a due payment of the mint, anise and cumin of diplomacy, and cannot rise to that

higher Egoism whose standard is self-approbation and which finds the best realisation of self in the happiness and well-being of others. International Morality is yet unborn. May the Christ of Politics soon come, who shall give it life, by preaching to nations that Gospel of Inwardness which Christ of Nazareth once preached to men!

ALFRED BARRATT.

III.—RECENT HEGELIAN CONTRIBUTIONS TO ENGLISH PHILOSOPHY.*

ONE of the most prominent of philosophical facts of late has been the existence in England of a small but energetic Hegelian school. Hegel, banished from Germany, has found refuge in England and America, and his influence seems to be decidedly on the increase. There were Hegelians among us before Dr. Hutchison Stirling published his *Secret of Hegel*, but undoubtedly that strange, uncouth, but wonderfully suggestive book has had more to do in propagating Hegelianism among us than anything else; while Mr. Wallace's translation of Hegel's *Logic* with the notes and prolegomena added by the translator did much to familiarise us with the system of the great German philosopher. But with the exception of a few essays and critiques we have not had until lately any real expression of the thought and work of English Hegelianism; we have not had the opportunity of seeing how an English thinker who has made the method and principles of Hegel his own is moved to describe and discuss ordinary philosophical themes which are already familiar to us. It is otherwise now however. The authors of the works whose titles are given at the beginning of this paper are two of the recognised leaders of the English Hegelian school, and the works themselves go over ground familiar enough to all students of philosophy. They contain a history of modern philosophy from Descartes to Kant, in which the principles of Hegelian criticism are brought to bear upon preceding metaphysical theories. In his article in the *Encyclopædia Britannica*,

* 1. *Encyclopædia Britannica*, 9th ed. Article "*Descartes*". Edinburgh: A. & C. Black, 1876.

2. *A Treatise of Human Nature*, by David Hume. Edited, with preliminary dissertations and notes, by T. H. GREEN, and T. H. GROSE. London: Longmans, Green, & Co., 1874.

3. *A Critical Account of the Philosophy of Kant*, with an historical introduction, by EDWARD CAIRD, M.A., Professor of Moral Philosophy in the University of Glasgow, late Fellow and Tutor of Merton College, Oxford. Glasgow: MacLehose, 1877.

Prof. Caird discusses Descartes and the Cartesian Philosophy, while his book on the Philosophy of Kant has for introduction a rapid summary of earlier metaphysic, dwelling at greatest length on Leibnitz and Wolff. Mr. Green's Introduction to his Critical Edition of Hume describes and criticises the theories of Locke, Berkeley, and Hume with a thoroughness which leaves nothing to be desired. What then is the value of these contributions, and what do they really add to the solution of the problems of philosophy? I do not propose to criticise them, but merely to point out what seem to me to be the real nature and value of these new elements in English philosophy.

It is worth observing that all the three treatises are historical and critical, and this accident of form really expresses what is at bottom a permanent characteristic, which distinguishes these writings from most other English works on philosophy. For, in spite of our practical character, English speculation has commonly found vent in the creation of a system or in the invention of theories rather than in the patient contemplation and description of a course of history. The fact that our English Hegelians write upon the history of philosophy rather than propound metaphysical theories for discussion may be an accident, but it reveals very clearly that in their eyes philosophy is not philosophy simply but something more, that it is related to poetry, politics, history and science in a way that our earlier English thinkers scarcely dreamed of. This relatedness of knowledge is coming to be a common-place, and men far removed from Hegelian modes of thought are ready to declare that philosophy cannot be isolated as it was when Hamilton and Mill ruled over rival systems. Mr. Herbert Spencer's books are an elaborate protest against the isolation of philosophical thought, and Mr. Lewes in his own way follows in his wake; but these distinguished thinkers do not seem to have such a thorough appreciation of the fact as their Hegelian contemporaries. The books I am now speaking of do not reveal this fact so openly as Dr. Hutchison Stirling's *Secret of Hegel*, where every now and then a side allusion, or a rapid paragraph, or a page of kaleidescope, showed how philosophy was to the writer the one foundation of all the arts and sciences of human life. There is more sustained philosophical analysis, and therefore less suggestiveness, but still there is enough revealed to show that with both writers philosophy is the *rationale* of life, and that what we call a system of metaphysic is nothing but the supreme scientific formula of the age that produced it, to be read by the light of the history of the period, and to serve to light up the dark parts of the time for later students.

The two really important contributions to the method of philosophy in England made by these treatises seem to be:—(1) That all philosophy worthy of the name must stand fast by the past, and only make advance when it has thoroughly assimilated the treasures of the past: there is an historical method in philosophy as in other departments of knowledge. (2) The philosopher must not isolate his problem, or at all events if he does he must not ignore the isolation, and then complain of the unconnectedness of human knowledge. The present is simply the past revealing itself, therefore beware of isolating the present—that is the one maxim. Beware of isolating your problem—that is the other maxim. The two maxims are perhaps at bottom one, but we may as well keep them separate. The one describes the nature of philosophy, and the other shows how to discuss individual problems presented by philosophy.

The two conceptions permeate Mr. Green's Introduction and Mr. Caird's book on Kant. Mr. Caird regards Kant as *the* critical philosopher and therefore looks on him as the chief thinker in an age which is *par excellence* the age of criticism. He cannot explain Kant's ideas without a careful study of the preceding philosophies and of Kant's own philosophical education. He traces the origin, growth, and outburst of the critical spirit in a somewhat lengthy introduction. Mr. Green, in the pregnant sentence with which he begins his analysis of Locke and Hume, shows how thoroughly he is imbued with the historical method in philosophy:—

"There is a view of the history of mankind by this time familiarised to Englishmen, which detaches from the chaos of events a connected series of ruling actions and beliefs—the achievement of great men and great epochs, and assigns to these in a special sense the term historical. According to this theory . . . the mass of nations must be regarded as left in swamps and shallows outside the main stream of human development. They have either never come within the influence of the hopes and institutions which make history a progress instead of a cycle, or they have stiffened these into a dead body of ceremony and caste, or at some great epoch they have failed to discern the sign of the times and rejected the counsel of God against themselves. Thus permanently or for generations, with no principle of motion but unsatisfied want, without assimilative ideas which from the strife of passions elicit moral results, they have trodden the old round of war, trade and faction, adding nothing to the spiritual heritage of man. It would seem that the historian need not trouble himself with them, except so far as relation to them determines the activity of progressive nations. A corresponding theory may with some confidence be applied to simplify the history of philosophical opinion."

He then shows how the usual plan of seeking the history of philosophy in the compendia of systems of great thinkers, without duly discriminating between what is of universal and permanent and what is of merely individual value, never reveals

the true progress which exists in real philosophy. He shows that in philosophy there are epochs, each of which is occupied by a master-mind who is the brain of the period. The time between is filled up, he says, by commentators and amplifiers, who really count for nothing in the true advance of thought. And then, giving practical point to his statements, he maintains that Hume was the last great English thinker, Leibnitz the last great German before Kant, and that Kant is greater than either because he transcended both. He read Hume with the eyes of Leibnitz, and Leibnitz with the eyes of Hume, and rid himself in this way of the presuppositions of both, and so surpassed them.

In a similar fashion the second conception appears at every step. It is the main concern both of Mr. Green and of Mr. Caird to expose that isolation of philosophical problems which produces the false individualism which both think the bane of modern philosophy. Mr. Green is chiefly concerned to give instances of it in Locke and to trace them to their legitimate end in Hume. Mr. Caird's whole book is a protest against the tendency which was recognised as evil by Kant, but from which Kant never wholly freed himself.

However we may be disposed to treat the individual opinions of the writers, it will scarcely be denied that the two principles to which I have now called attention are a valuable contribution, if not to the philosophy, at least to the philosophical method of this country, and it may be of advantage to describe them at somewhat greater length.

In science, politics, law, and even in poetry the historical method of investigation is almost omnipotent in these days. Let us take an example from jurisprudence. When Grotius and Puffendorf lived, jurists could only find an explanation for certain principles of public law by means of legal fictions, which presupposed that men and nations had met together and consented to forego individual rights for the sake of security and the common weal. Now jurists explain opinions and institutions by tracing them from their first obscure beginnings to their completed forms. Sir Henry Maine's works are examples of what I mean. It is the same in science. What is the Darwinian theory, for example, but an attempt to explain animated nature by a reference to the whole history of the matter?

The impulse to such historical investigation was first given by Kant, and it has greatly extended its sphere and influence since his time. Kant's own idea was that the history of any thing was just the record of its nature written by itself: to know a thing, know its history: the history of any thing is

just the thing itself taking its own time to reveal itself. Kant in short was the earliest to exalt the common saying 'the child is father of the man' into the fundamental principle of all scientific inquiry. The principle once stated soon became influential, and was laid hold of and applied in all directions, often with reckless haste, often in a ludicrously absurd fashion, but in the end generally in a sober earnest way, until one science after another began to be cultivated according to the historical method. Kant's thoughts were not of the useless, unprofitable kind which are to be found in the systems of third-rate metaphysicians. His ideas have still power and place far beyond the ordinary sphere of metaphysic. His influence has been greater than that of any philosopher since the time of Aristotle. We all owe something to him, and are forced by fine spiritual influences which are not to be measured or gauged in ordinary ways to think in some measure in the way in which he would have us think; and this just because of the kingly intellect of the man.

First the notion was applied to history itself, and the era of critical history arose. History was no longer a medley of petty dramas displaying themselves in confusion before the eyes of the puzzled spectators; it became a unity; and the history of any one people or of any one period became the story of the life and life-work of the people or time. The unity of history became a scientific fact. Then the idea was applied in various ways to science, which has of late been taking huge strides onward in consequence; and the circle of the sciences, and the unity of science, are now axioms in all scientific investigations. In the end, philosophy consciously applied to herself the method which she had discovered, and with results. The *history* of philosophy was studied. The unity of philosophy became an axiom, and philosophy was raised, just as history had been raised, from a chaos of jarring systems, into the scientific record of the progress of human thought, the key to the history of the mind of the human race in the various stages of its development. The same mind has been at work all along, throwing out the same yet constantly changing ideas, and thus we must assimilate the past if we are to make any advance in the present. No philosopher need ever think that he will do good work by sitting down and attempting to spin theories out of his own individual brain; he must be sympathetically conscious of the past; he must stand on the heights already reached if he is to climb higher.

There is another use of history which both our authors seem aware of, and which can scarcely too often be impressed upon English thinkers. The sharp individualism of our insular

philosophy prevents us from making full use of history in our philosophical investigations. Time softens all things : it subdues individual eccentricities, removes prejudices, separates what is transitory from what is lasting. And just as one's own past life is softened in the moonlight of memory, and past actions are set in a gentle haze which robs them of their harshness, so time universalises opinions and theories. If they do not stand the test of time they are not worth much. History winnows the wheat from the chaff for us, and we should hear less about the difficulty of creating universals if we let history make them for us as it is always doing.

So much for the first conception which insists that, in order to know a thing, what goes before and what comes after must be known. We go on to the other maxim, which declares that the knowledge of any one thing is dependent on our knowledge of what is round about it. There is nothing Hegelian thinkers are more earnest in denouncing than the habit common in philosophy of isolating the problem under discussion. This habit they call abstract or analytic thinking, and they insist that ordinary psychology, to its own hurt, is full of it. The "altogetherness of everything," the solidarity of all problems, is an axiom with which they are wont to weary their hearers, and it is one whose practical application deserves some attention.

It is a common maxim in homiletics—If you read nothing but the Bible you will not understand *it* rightly. It is a common maxim in ethics—If you do nothing but seek to gain pleasure, you will not get *it*. These homely maxims may serve to explain what is meant by the second idea which I wish to describe. There are many ways in which the principle may be ignored. For example, philosophy when it is studied exclusively and by itself, apart from what may be called the human interest in it, is singularly barren. I have already said that the books under discussion are perhaps somewhat abstract and analytic in this respect; but there are indications that the writers are fully alive to the importance of what is now insisted upon. Philosophical maxims, principles, and propositions are not merely philosophical in the strictly technical sense of the term. They are the overflowings of mind which is also manifesting itself in many other ways; in art, for example, in science, in politics, and so on. The maxim is philosophical, if it be really so, because it is enunciated in a particular way, and also because it is the concentration, the essence as it were, of the same thought which may appear in art or poetry, science or politics.

The philosopher therefore loses much if he attempts to confine his philosophical observations either to the working of his own

mind, or to an examination of the writings of previous or contemporary thinkers. It is his duty to measure the pulse of human thought, to note its movements, its expressions, to understand its nature, and to describe it. His task is to reduce thought and its movements to scientific formulæ. But if he isolates the problem, if he examines mind only by the introspective method, if he measures its movements in some narrow technical fashion, if he overlooks the upheavals of mind in art, poetry and science, or its crystallisation in political and ecclesiastical institutions, he has wantonly and arbitrarily limited the sphere of his observation, and his attempt must be abortive. A caricature is produced by attention and abstraction —by picking out and intensifying certain features and by neglecting others. The professional metaphysician who keeps within merely technical limits is liable to make a caricature, not the living reproduction of thought.

According to Mr. Green, however, the ordinary psychology as represented by Locke has been guilty of this isolation of the problem in another and more mischievous way. Ordinary psychology wishes to know what is the machinery by which the mind works, and it attempts to find this out by simply looking into the mind to see how it works. There is, however, an additional idea which complicates the matter. The mind, it is supposed, has come to be a mind from being something else, and the consequences of this supposition are never very clearly calculated. "According to Locke," says Mr. Green (and empirical psychology has never substantially varied the position) "the matter to be observed consists for each man, firstly, in certain impressions of his own individual mind, by which this mind from being a mere blank has become furnished—by which, in other words, his mind has become a mind; and, secondly, in certain operations, which the mind thus constituted performs upon the materials which constitute it. The observer all the while is the constituted mind itself. The question at once arises how the developed man can observe in himself that primitive state in which his mind was a *tabula rasa*." I need not follow Mr. Green in his very acute criticism; all that is necessary is to point out the isolation which is protested against. In the first place, the minds of different men are regarded as different things; they are isolated and become individuals, and the isolated individual is the subject of observation. If you first isolate your object, can you wonder that you fail to discover that connection and relation which philosophy demands? In the second place, the mind thus isolated and individualised is dissected, is divided into two parts which are first of all arbitrarily separated, and then illegitimately brought together

again. The mind before it was a mind, and the mind when it has become a mind, are set over against each other and isolated. If this isolation is made merely for the purposes of observation, with the express implication that it is simply hypothetical, and if the observer carefully remembers the fact, then perhaps no great harm is done; but these precautions are not taken, we fear, in ordinary psychology. The problem is wrongly stated from the first, and it is scarcely to be wondered at that psychology is becoming more and more helpless, and that it is fain to take refuge in physiological investigations. Physiology links psychology to material nature, and to that extent at least frees it from the hopeless isolation which makes scientific progress impossible.

I am not attempting anything like an adequate criticism of the books which are placed at the head of this article. I merely wish to point out what new elements they introduce into English psychology and philosophy. It is beyond my purpose therefore to follow Mr. Green through his very acute criticism of Locke, Berkeley, and Hume—to describe how he traces to the forced isolation which I have described and then to the illegitimate efforts to overcome the practical consequences of this false start, the metaphysical principles which lie at the root of Hume's denial of the possibility of metaphysic; or to state how Mr. Caird with greater historical sweep of illustration enforces his conclusions. Let me simply give some practical illustration of the way in which this isolation works.

There is an isolation of mind from mind in the ordinary psychology. The observer does not look into mind, but into *a* mind, into his own mind, and sees what is going on there. He starts by separating his own mind from mind, by isolating his own mind from every other mind, and that not so much for the purpose of discovering what his own mind is, as in order to know what mind is. For psychology is not the natural history of a single mind, it claims that its statements are to have the value of general truths; otherwise they would be useless. But it starts by shutting one single mind up within itself, and, having built a hedge about it to begin with, finds considerable difficulty in transcending the boundaries it has set up. It is this *fictitious* individualism in modern psychology which our authors protest against, and which it seems to me has thrown psychology into the arms of physiology. There is of course a profound truth in the individualism of modern philosophy. When Christianity taught the world the infinite value of a single human soul, there was implanted in modern thought a principle of individualism which can never be eradicated; and when the great Reformation, as Mr. Caird shows, vindicated

this principle with startling energy, it was to be expected that modern philosophy should embody it and place it in the forefront of its metaphysical principles. It was only to be expected that with Descartes and his immediate followers 'I' and 'my mind' should take the most important place, and that individualism should be the watchword in their systems. But Descartes and his followers were like men who put new wine into old bottles. Their individualism, their one new truth, was actually stifled within a system which in all its logical and metaphysical principles was scholastic and Aristotelian. Their individualism was not allowed to live its own way and form itself according to its own fashion: it was distorted and bent all out of shape to suit a system of logic and psychology which came into being before this new principle was heard of. Seventeenth Century philosophy resembles Seventeenth Century theology: both brought in Aristotle and Scholasticism with the intention of consolidating, and with the effect of rendering mis-shapen, the new intellectual and religious life of the time. The effects of this fictitious individualism are very manifest. It is essential to knowledge that the mind should pass beyond itself, and if men are to know things in common, if mankind is to have that community of knowledge which is necessary for them to transact business together, to say nothing of a higher common intellectual life, their minds must pass beyond themselves in the same way and with mutual action and co-operation. It is undoubted that as a matter of fact this does take place. Some philosophers tell us that no two men agree in any one thing, that each man sees and knows with his own mind, which because it is his own must be different from those of other people, and therefore must see and know in its own different way. Mark the assumptions involved! But, in point of fact, men do agree in more things than they differ in, and psychology must explain the agreement as well as the differing. Heine in his *Reisebilder* makes one of his wicked suggestions about the money-grubbing but inoffensive citizens of a German mercantile town—Bremen, I think. He pictures their monotonous life spent at a desk exhausting itself in 'two and two make four and five nine'. What madness would seize the quiet community, he says, if one of these burghers got it into his head that 'two and two made five and five eleven'! The man's whole life would have been a mistake; he would feel separated from himself, and would certainly be in a state of lively separation from his neighbours. In point of fact such an idea would never occur at all; yet the fictitious individualism of ordinary psychology does seem to suggest the possibility. By isolating the individual mind at the beginning, it expressly

suggests the want of common action and common knowledge. Of course such an idea is impossible: a consistent sceptic like Hume accepts his position, but few metaphysicians and psychologists are consistent sceptics. From the beginning of modern psychology the main endeavour has been to bring together again what the psychologist started with separating. The Cartesian 'innate idea' and the whole series of elaborate mechanical contrivances down to the latest modification of the 'inseparable association' theory, all bear witness that when the psychologist has once sundered what is really inseparable in the nature of things, he cannot rest till he has contrived some way of bringing them together again, even though his links of connection are as fictitious as his earlier method of separation.

The great evil of the whole matter lies in the influence which this arbitrary isolation has upon the general view of the possibility of a common knowledge and of a philosophy founded thereon. When 'my own mind' is separated from 'mind' to begin with, and elaborate contrivances have to be created to bring them together again, the tendency is generated to look at intellectual discord as the rule in knowledge, and to regard the harmonies in human experience as anomalies which require explanation. The business of philosophy is just turned upside down. It is not to expound the agreement which is the rule, and the differences which are the exception; but to expound the differences which are the rule and to explain the harmonies which are the exception.

While Mr. Green shows how the fictitious individualism in modern philosophy found its legitimate outcome in the scepticism of Hume, Mr. Caird in his *Philosophy of Kant* shows how it may be counteracted by a judicious return to a more natural way of philosophising. In Kant we see the practical illustration of the working of the principles which our authors are introducing into English philosophy. Kant is by pre-eminence the critical philosopher; he recognises more fully than any other that all things whatsoever must be brought to the test, and his thoroughness in exposing the philosophical fallacies of his predecessors has caused him to be known as the iconoclast.

Mr. Caird's book is a careful analysis of the *Critique of Pure Reason* accompanied by suggestive commentary and criticism. It is the best book on Kant's philosophy that I am acquainted with either in our own language or in German, and cannot fail to be the standard work upon the subject for a long time to come. In this volume Mr. Caird has confined himself to a strictly technical exposition of Kant's metaphysical principles, and has for this reason failed to give his readers any insight into the marvellous suggestiveness of the great German's ideas

and principles. The book is the work of a professed metaphysician sternly confining himself to technical questions. Kant's relations to science, to mathematics, to history, to ethics, and to theology are passed over almost unheeded. The author has a strictly metaphysical problem to solve, and solves it without digression. This would be unfortunate if it were not that we are promised another volume in which the practical and popular sides of Kant's ideas are to be expounded. As it is, we can see clearly how Mr. Caird would have us look at metaphysical and psychological problems.

In opposition to the separative individualism of modern philosophy, Mr. Caird points out that the main idea in Kant's metaphysic and psychology is synthesis; other philosophies have been analytic or separative, Kant's is synthetic. It strives to explain the unity which we actually see in all things. It justifies this unity against criticism. There is the unity of thought in the history of philosophy, the unity of the mind, the solidarity of mind, the coherence of the universe. Unity is everywhere, and Kant justifies it; his philosophy is synthetic, his watchword is *synthesis*. There is a oneness in human experience, a oneness in human thought, a oneness in human aspiration. Unity or harmony or universality is the rule, difference and discord the exceptions.

But while Mr. Caird shows how all these are fundamental principles with Kant, he also points out that Kant is not quite true to his principles, and that at times he is barely conscious of them. The criticism when adverse is almost entirely a statement that Kant is not synthetic enough, that, while he repudiates the separatism of Locke and Leibnitz, he could not quite emancipate himself from the ideas in which he had been brought up, and that his invariable tendency is to fall back into analysis in the very places in which synthesis is most required.

From Mr. Caird's book we see clearly that Kant was the great philosopher which he is universally allowed to be, not because he invented a new theory of knowing and being and of their relations, but because he understood as no one else did the currents of previous speculation, because he had felt all of them, sympathised with all of them, and felt able to gather all together. He was a great philosopher, because he assimilated to himself all that was really good in all the opposing theories of previous generations and so could make a fresh start. He was the embodiment of the philosophical aspirations of his time—and was therefore the philosopher of the age. Hegel, in his *Philosophy of History*, has in his usual powerfully graphic way pictured the European nations throwing themselves horde after horde upon the shores of Palestine, hoping to find the realisation

of Christendom and to live in the spirit of Christ by living where the Master lived, treading the roads He travelled, and everywhere erecting the cross where the crescent had waved on holy ground; and, when driven back in disappointment and despair, finding a truer realisation of that life and spirit in the cultivation of the sciences, in the revival of letters and art, and in the outburst of the spirit of religious liberty in the Reformation. In the same way we can see the spirit of modern Europe eager to find that free individual life which Christianity had taught it to prize, striving eagerly to gain it amidst materialist psychology, sceptical metaphysic, and necessitarian and utilitarian ethics, at last after many wanderings coming to it in the synthetic philosophy and grand moral ideas of the Kantian Philosophy. Europe did not lose by the Crusades. The road was a roundabout one, but it reached its end after all, and the East enriched the West; and so philosophy did not lose by Locke and Hume, by Leibnitz and Wolff: they were the road to truer principles which contained what truth they had and taught.

I know of no finer piece of psychological analysis than Mr. Caird's chapter entitled 'the Pre-Critical Period,' in which he shows Kant gradually awakening to one after another of the elements which were to make his system yet lying in the future. It is interesting biographically, but it has special interest because it shows how Kant was really the sum of previous metaphysics. He attached to himself what was permanent in them, and so transcended them. This biographical sketch has enabled us to see clearly for the first time how it was that Kant created an era in philosophy. He absolutely swept away what had gone before, not so much by refuting his opponents as by appropriating whatever was really valuable out of opposing systems, and so destroying them.

Kant's principles did not come to him all at once, as Hume's did. He did not make a system which was to set the world right all at once, as Berkeley had done. He slowly accumulated his materials, and in doing so sucked previous philosophy dry; and when he had got what he wanted he put it all down in the *Critique* very much as it came to him, and we find there distinctly traceable the psychological struggle which Mr. Caird has explained at length. Kant is not a skilful expositor. He has a lumbering style, uses uncouth phrases, and besides it seems as if he was always repeating himself. One result of this is that he takes his readers the whole weary road that he himself travelled. He does not use his own experience in order to take his readers by a short and swift passage to his conclusions, he makes them trudge backwards and forwards by the same turnings and twistings which he made while finding out the path for

himself. This defect of style lets us see how thoroughly Kant linked himself to history. His repetitions and apparent contradictions are made simple, when we remember that he has both Leibnitz and Hume in his mind, and endeavours to answer both at the same time. Before Kant's time, to oppose Leibnitz was to defend Locke and Hume, and to oppose Locke and Hume was to defend Leibnitz and Wolff; but Kant was a partisan of neither. He took from both and he opposed both, and he does so in his writings, and especially in the *Critique of Pure Reason* without much warning. This is one of the great causes of the obscurity of the book, but it is also a proof of the thorough way in which Kant identified himself with the past, and endeavoured to assimilate all that was permanent in it. Mr. Green says that Kant read Hume with the eyes of Leibnitz, and Leibnitz with the eyes of Hume, and so was able to a great extent to rid himself of the presuppositions of both; and this is what we find in the *Critique*. In one paragraph he may be speaking of Wolff or Leibnitz; in the next he is speaking of Locke and Leibnitz; and he so interweaves the principles, or refutation of the principles, of these philosophers with his own statements, that it is often difficult to disentangle the whole. But the main thing to be noticed both in the account of Kant's philosophical education and in the way in which he treats the ideas of previous thinkers, is his refusal to isolate the present from the past, and his assured resolve to establish himself on the basis of previous philosophic work. His aim is to conserve the past while he constructs for the present.

It is more important however to observe how Kant opposed and denied the isolating or separative principles of the earlier metaphysic. He did not take the mind to pieces in order to put it together again, and he did not separate the mind from what it knows in such a fashion as to render it a hopeless task to prove that the mind can ever know anything at all. Kant holds that all these abstractions of the ordinary psychology are false and mischievous, and he believes that the true use of mental philosophy is not to dissect the mind, but to describe it and its workings as truly and as naturally as is possible;—to detect and reveal the latent process by which the mind perceives, knows, and builds up its knowledge; and as knowledge comes from putting things together, the process which can reveal the nature of knowledge must be synthetic and not analytic, constructive and not separative. Kant's general idea about knowledge may be roughly put in this way: the acquisition of knowledge is the filling up of a plan which is already in the mind; understanding gives the plan and sense fills it in. Here is synthesis at the very outset, and Kant's whole argument suggests connection instead

of division. Knowledge is a synthesis, the object of knowledge is a synthesis, there is a synthesis of 'my own mind' with 'mind' and so on. But there is a twofold difficulty in understanding Kant's action in this matter because his style and method of exposition are obscure and misleading, and he does not rigidly follow out his principles to their just issue.

The difficulty in style and method of exposition is that Kant to all appearance does isolate the various problems connected with the acquisition of knowledge, and that the appearance of isolation is made the more complete by the fact that Kant works backwards. He divides his *Critique of Pure Reason* into three parts, discussing in order, one after another, the problem of sense, the problem of understanding, and the problem of reason. The acquisition of knowledge, its elaborate arrangement, and its subsumption under ideals, are all discussed separately and without much apparent connection, just as in ordinary psychology sense, memory, and thought make separate heads of exposition. This isolation is more apparent than real. Kant is himself aware that the problem of the æsthetic cannot be solved apart from the understanding, and that the solution of the problem of the understanding in the last resort lies in the reason. But he *isolates* the problem with which he is dealing even though he knows that the true solution can only be fully given when its relations to other problems are fully recognised and discussed. Kant's first problem cannot be solved unless the second is known, and the second is really insoluble until the third is known; but while Kant is working at the first we never get a hint that there is a second, and while he is busy with the second we are not told anything about a third. He works backwards, and it is only when we get to the end and turn back again with the knowledge we have got after all our labour, that we begin to see what the author had in view the whole time. In short, as I have said, Kant takes his readers by the same laborious road which he himself travelled, and leads them along dim paths, so that they do not see where they are going till they get to the very end of the journey.

His method of exposition seems to make Kant more untrue to his idea of synthesis than he really is, because he isolates sense from understanding and both from reason, while he discusses the difficulties under each. But he really does fall far short of his ideal, even when due allowance is made for his habit of mind and manner of statement. Synthesis is organic unity, and when Kant declared that the possibility of synthetic propositions was the problem of knowledge, he really meant that the business of philosophy was to show this organic unity. But organic unity or synthesis is not produced by laying down

two or more elements side by side with each other; synthesis is not mere position. To take the matter in Kant's way, synthesis in knowledge is not proved by showing that there is an *a priori* and an *a posteriori* element in all knowledge, and that these two subsist side by side with each other. It must be shown that they make an amalgam, that they combine in an organic unity which is neither the one nor the other nor merely both together, but is a distinct thing by itself. To take an illustration: the object 'ship' is an organic unity of sense, memory, and thought; all contribute their parts, but the object is not a juxtaposition of the three elements. It is impossible to take one away and then say what is left; take one away, there is no *object*; it may be broken up into a variety of objects each by itself an organic unity of sense, memory, and thought, but the one object 'ship' has gone out of existence. Dr. Hutchison Stirling, in his *Secret of Hegel*, puts this well when he declares that the Santa Maria must have been an unknown blur in the eyes of the Indians who thronged round Columbus when he first landed in America. It was not an object to them, but several objects as their memory and thought taught them. If they took it all in at once it was in a side way—'floating house,' 'winged creature,' and so on. An aspect of the ship was an object to them, and parts of the ship were objects to them, but the whole was not one object, because at first, while vision worked as usual, thought and memory lagged behind, and they were as blind to the whole object 'ship' as if they had had no vision. But suppose a ship-wrecked Spanish sailor had been among the islanders, how easily spars, rigging, sails, and hull would have gone together into the one 'ship'—for with him thought and memory did not lag behind. In short, to make an object of knowledge there must be the organic unity of sense, thought, and what Kant calls imagination. That this is what was in Kant's mind is evident not merely from what he says in the *Critique of Pure Reason*, but from the whole course of his statements in the *Critique of Judgment*; still he does not make this clear, at least in the *Critique of Pure Reason*. The chief value of Mr. Caird's book is the admirable way in which all this has been put. He disentangles the appearance of isolation or of the absence of synthesis which comes from the method of exposition, from the real isolation or failure to carry out fully the synthetic idea which is the real fault in Kant's philosophy.

In the Æsthetic, Kant isolates the problem of sense-knowledge, but only for the sake of exposition, from the understanding and from the reason. His main object is to show that sense alone cannot give knowledge, and yet that there can be no knowledge without sense. This implies, as we see

further on, that knowledge is the filling up of a plan already in the mind, while other elements give the plan, but in the Æsthetic, Kant contents himself with showing that there is an *a priori* element in sense-knowledge—Space and Time—and that it is this *a priori* element which enables and compels men to know the same things in the same way, to have a common knowledge in things of sense. All men can distinguish a plane surface from that which has depth as well as height and breadth. Whatever differences there may be in human knowledge, what is a square to one man is a square to all men, what is a cube to one man is a cube to all men. Every one recognises the difference between a picture and a statue. I need not dwell on this, as Kant's doctrine of Space and Time and the use he makes of it are familiar enough to every one; but it is well to notice how here as elsewhere Kant makes his own idea less intelligible than it might be by his faults of exposition and by his refusal to carry out his own fundamental principle. To take the latter first—It is in accordance with Kant's idea of the organic unity of knowledge that the *a priori* and the *a posteriori* elements in sense should form an amalgam; but this is not brought out clearly, it rather seems as if Kant were not prepared to say this. The *a priori* element is an element which combines but does not amalgamate, or at least is not said to amalgamate with the *a posteriori*. Kant seems to bring in the *a priori* element and let it rest side by side with the sensuous; he does not insist on the organic oneness of the two in knowledge. And then by his isolation of the problem of sense he seems to imply that there is a sense-knowledge which is a kind of knowledge by itself and not an element in *all* knowledge—he seems to say that there is one kind of knowledge which is sense-knowledge and another kind which is thought-knowledge; while his own opinion is that there is no knowledge whatever without sense and none whatever without thought. While we read the Æsthetic, it appears as if the objects of sense formed by the combination of the *a priori* and *a posteriori* elements in perception were sufficient to give us an object without the aid of conception or of any other of the so-called faculties of the mind. But as Mr. Caird points out, when we enter on the study of the Analytic we have to strip perception of its borrowed attributes: we find that in perception we have not an object, we are only on the way to it; or, as Mr. Caird puts it, in the Analytic we have to consider *in the doing* that which the Æsthetic generally considers *as done*. "We have to ask how the fleeting sensations can be arrested in their flux, and connected together so as to become perceptions of objects, whether in the inner or outer experience. . . . In the

Æsthetic all this was simply supposed to be given in sense. The perception was there regarded as setting us face to face with the individual in its complete not to say infinite determination, which no conception can ever fully represent. Now, however, we have to recognise that the idea of the individual is the result of a process which is ever going on in experience, and that the infinity which is attributed to it merely means that we know the process can never be completed." And thus we begin to recognise that all that we have in the so-called sense-knowledge is not knowledge at all, but an endless process of specification towards an object, and that this process comes to an end when the object is perfectly individualised, *i.e.*, when it is at once distinguished from and related to the whole universe. As soon then as we recognise that in Kant's view sense-knowledge is not knowledge at all but a process in knowledge, that there is no object of sense but only an aiming after an object, and that—such is the organic unity of knowledge—the object can never be an object thoroughly until it is set in relation to the universe of objects, we see how Kant's isolation of the problem of sense is simply provisional. Perception can only be understood when taken along with what is more than perception, and so the problems of the Analytic and of the Dialectic surround the problem of the Æsthetic and must be solved ere it can be unravelled. If sensations are but an unconnected manifold caught up into a process working onwards towards the perfect individualisation of an object, we must know something of the actual process itself, of its principles and rules of procedure, and we must also know something of the universe—of the totality of things, of the end of the process which we are compelled to look forward to and yet never attain. It is difficult to see why Kant should have gone so much out of his way to perplex his readers, but Mr. Caird's suggestion seems to be the right one. "The Æsthetic," he says, "represents, at least in its main outlines, the ideas of a time when Kant did not yet doubt that sense of itself enables us, and that it alone enables us, to acquire and increase our knowledge of objects." The *Critique*, in short, is a biography as well as an exposition.

I need scarcely go on to show how there is the same isolation of the problem in the Analytic and the same failure to realise to the full the meaning of his own principle of synthesis in the two remaining portions of Kant. These have been brought out in a masterly way by Mr. Caird, and I am not so much concerned with the contributions to our knowledge of Kant which he makes, as with the solid additions he has made to English philosophy and psychology.

The common English idea of Hegel and Hegelians, men who

tranquilly spin theories without regard to facts, is rapidly disappearing. There is every appearance of hard work in the books we have thus shortly considered, and very little appearance of undue theorising and classification. But their principal value to English philosophy, apart from the special knowledge they give us of the men and ideas they discuss and criticise, is that they bring home to our mind the solidarity of human thought as that is revealed to us in the history of philosophy, and that they insist upon the synthetic unity, the organic oneness, of the mind and of knowledge.

T. M. Lindsay.

IV.—PHILOSOPHY IN GERMANY.

It was not without hesitation that I agreed, at the request of the Editor of Mind, to give an account of the present state of philosophy in Germany, and I did so only in the hope that the reader would not expect from me anything like a complete review of our latest philosophical literature. All I shall attempt is a short description of the principal currents composing the present philosophical movement in Germany. I shall of course refer to some of the most striking productions in which it finds expression, but I cannot touch on everything that may lay claim to philosophical significance. Should, therefore, this article be read by German philosophical writers, many will doubtless find their names passed over, while perhaps some less important works than theirs are mentioned. I can only hope that I shall be pardoned for the omission, partly on the ground of the declared object of the paper, and partly because (as I think no philosophical writer studying the works of others will deny) our time is so fruitful in literary production that it is impossible even for the most active reader to take account of everything of value that appears. This might not, indeed, be so difficult in itself, were it not necessary to wade through so much that is mediocre; unfortunately, the worth of books does not stand written on their fronts. Then it is just that which does *not* possess permanent scientific value, that may be most specially characteristic of the time; for a very inadequate picture of the history of science would be given if the history of errors were excluded. And I have besides to direct attention not only to our philosophical literature, but also to the state of philosophical instruction, of which perhaps still less is known.

In undertaking to describe the main currents of German philosophy at the present day, we must first of all be prepared for an objection, that will make the attempt seem a very

questionable one. "Are there then," the expert will ask, "any such main currents? Is there not rather merely a number of little streams, each one taking its own course?" At first sight this may well seem to be so. Our philosophical literature is not more bulky than it is many-sided in its views and tendencies. In this, it appears to me, our present development differs essentially from the condition of German philosophy in the first half of this century. Then well-defined schools, some one being dominant, stood opposed to each other, and to one or other of them every student of philosophy belonged. Now it almost seems as if every writer on philosophical subjects had his own system; and if any one follows the earlier philosophers, such as Kant, Herbart or Schopenhauer, it is done with all kinds of reservations emphatically stated, so that no one may think of questioning the originality of the author. A philosophical writer came forward some years ago, with a proposal, seriously intended and on many sides seriously discussed, for eternal peace in philosophy, and one could not help thinking how, also in the political sphere, utopian dreams of peace are never more rife than in times of war. The natural result of his well-meant proposal was a hot controversy which left everything as it was.*

The break-up of opinions is evidently connected with two well-marked features in our later philosophical development—on the one hand, the decline of the speculative systems so long prevailing, followed by the rise of no new theory of the universe obtaining a similar general acceptance, and, on the other hand, the transfer of philosophical production from the Universities to the wider circle of cultivated men. This last phenomenon especially is too characteristic for us not to examine it somewhat more closely.

At the beginning of this century it was in the lecture-rooms of our Universities that metaphysical systems first saw the light, and they gained enthusiastic adherents among students before they sought a larger public in the printed form. Thus Fichte first unfolded the various aspects of his *Wissenschaftslehre* before an academic audience; also the successive phases of Schelling's system originated as college-lectures, and at last did not get beyond this stage, so that we know his later views only from the papers he left. In like manner Hegel's philosophical lectures were all either summaries of his whole system or parts of it, for this most systematic of thinkers knew how to force even the history of philosophy within the frame of his dialectic. Finally we know that Herbart's favourite subject for academic

* A Spir, "Zum ewigen Frieden in der Philosophie," in *Philos. Monatshefte*, XI. p. 273. For the controversy, see pp. 362, 422, and XII., pp. 133, 207. (*Cf.* MIND, No. III., p. 420.)

prelection was his metaphysical system, which he also made the basis of his psychology. The disciples naturally followed the example of their masters, and thus Metaphysic was at that time the principal subject of instruction in the German universities. It had taken Psychology, Ethic, Æsthetic and Philosophy of Nature into its service, while Logic also was either absorbed by it or treated merely as a propædeutic. History of Philosophy was little regarded. What is the use of historical knowledge, when all truth is believed to lie within the four corners of a single system? It was chiefly through Hegel's masterly, if one-sided, treatment that this department acquired a standing in the academic discipline.

How different it now is in our Universities! Perhaps the following table describes more eloquently than any detailed statement the present condition of our Academic Philosophy. In this table, with the help of Ascherson and Seelmann's *Calendar of German Universities* (Berlin), which appears every session, I give the statistics, for the last few years, of such lectures as will best show what has been doing in philosophy. As such I have selected those on History of Philosophy, Logic, Psychology, Metaphysic and Ethics. My statistics extend to all universities speaking the German language (German, Austrian, Swiss, and the Russian University of Dorpat), but only to the lectures in the philosophical faculty; thus, for instance, theological ethics is not taken account of, as this is a subject confined to theologians, and therefore gives no indication of the general philosophical interest. Further only those lectures are noticed that treat of a whole department or the greater part of one (as for instance the History of Ancient, Modern, or the Latest Philosophy). The total number of lectures is as follows:—

	Hist. of Phil.	Logic.	Psych.	Metaph.	Ethics.
Winter 1874-5 . .	34	21	17	7	6
Summer 1875 . .	39	22	23	5	3
Winter 1875-6 . .	37	27	18	8	9
Summer 1876 . .	35	17	23	6	3
Winter 1876-7 . .	39	24	22	8	9
Summer 1877 . .	32	20	17	5	2
	216	131	120	39	32

As we see, History of Philosophy is throughout predominant. The number of lectures on it is little less than those on Logic and Psychology together. The two last are pretty evenly balanced, with a slight preponderance in favour of Logic. The predominance of History is the more significant when we consider that where there are exercise-classes (*Seminare* und *Uebungen*), these really form a supplement to the historical

lectures, since they are almost invariably occupied with the interpretation of particular philosophical writers. Also it must not be forgotten that more lectures—four or five hours a week—are always devoted to History of Philosophy (whether General or Ancient or Modern), whilst not a few academical teachers are satisfied with from two to three hours for Psychology and Logic.

The number of lectures on Metaphysic and Ethics is very small; at the same time Ethics is perceptibly behind Metaphysic. According to our table, indeed, they are about equal, but this is due to the prominence given to practical philosophy in the Austrian universities. Thus, for instance, out of the nine courses on Ethics delivered in the two winter sessions of 1875-6 and 1876-7, six were given in the four Austrian universities, whilst the remaining three were furnished by the twenty-four universities of the German Empire and Switzerland. It might thus seem as if Austria were animated by a far more living interest in Ethics than the rest of Germany; but the fact has a much less exalted reason. In Austria a course of lectures on Ethics must be attended by every one desirous of passing the state-examination in law. However, if in Germany proper Metaphysic in some degree prevails over Ethics, it must always be remembered that, out of the six to eight courses on the subject given in every session, at least half treat of Logic at the same time; while the rest either are delivered by older men, the last surviving pillars of the once prevailing metaphysical systems, or consist of lectures which might perhaps be better described as *against* Metaphysic.

Now what is the meaning of these statistics? First manifestly this, that a complete revolution has taken place in the course of our philosophical instruction. Formerly Metaphysic had the upper hand, and if the academic teacher had no system of his own he attached himself to a particular school, into which he introduced his students. Now History of Philosophy prevails; that is, Metaphysic is treated historically and critically in the succession of philosophical systems, as a science, so to speak, that has passed away. At the same time a moderate interest is bestowed on those bodies of doctrine which, to a certain degree at least, are placed above the strife of systems by the possession of a small number of generally recognised principles and facts, and which at the same time possess practical importance—Logic and Psychology. Significantly enough, of these two Logic is the more ardently cultivated, being treated for the most part, as the greater number of our manuals show, in the traditional formalistic way, in which it can be taught entirely without reference to metaphysical views—which cannot be the case to the same degree with Psychology. That both subjects

are much less cultivated at the Universities than History of Philosophy is, however, partly due to the circumstance that some hours are given to Logic and Psychology in the highest classes of our Gymnasiums. Not, by any means, that students enter the university as perfect logicians and psychologists; on the contrary, their knowledge of these subjects is extremely small. Indeed, the dry and tedious manner in which the subjects are treated at school by the philologists to whom they have in general to be confided, is quite sufficient to drive out of young heads any liking for them or for philosophy either. Our more intelligent schoolmasters are now agreed that philosophy belongs to the work of the university; but who does not know that *vis inertiæ* is nowhere so powerful as in school-matters? I shall never forget a school-examination in Psychology at which I had to be present some years ago. The master, otherwise an excellent man, had brewed his own psychology, and had imparted it to the schoolboys by means of dictations learnt by heart. The answer was always forthcoming; hardly once was there any mistake. The nature of soul, life, mind, and body—all this, with much besides, was explained with the utmost exactness. "Are not our pupils well up in Psychology?" I was asked by another master. "Yes, indeed," I replied; "out of all these questions I could not have answered one."

The philosophical knowledge of our students, when they pass to the University, in those favourable cases where there is not left a general impression of utter weariness, consists of a few scholastic definitions and logical rules learnt by heart. That young men who fancy such things to be philosophy do not enthusiastically flock to philosophical lectures is intelligible enough. The German student does not, like his English compeer, reside at the University simply with the object of general scientific culture, but first and foremost he pursues a *Brodstudium*. He has chosen a profession which is to procure him a future living as doctor, practising lawyer, clergyman, master in one of the higher schools or the like, and for which he must establish his fitness in an examination at the close of his university-career. But how enormously have the subjects of instruction increased in the majority of these professions, owing to the progress of the special sciences! It needs therefore either compulsion or a specially lively interest to bring our doctors, lawyers, and philologists to the philosophical lectures. But of late compulsion has for the most part ceased, partly in consideration of the large demands of professional subjects, partly in just deference to the principle of freedom of study. Even for the examination that precedes the granting of the degree of Doctor of Philosophy, most German universities do not absolutely

require philosophical knowledge, so that the very title that takes its name from the subject, is often granted to those who practically know nothing of Philosophy.

These facts are very significant as to the present state of our Philosophy, yet it would be rash to conclude from them that the subject is on the decline. For in the first place it cannot be overlooked that of late years the interest in Philosophy has again increased even in the universities, a symptom all the more valuable that, by the present academic regulations, the attendance at philosophical lectures depends more than it formerly did on the option of the students. But secondly, and this is the main point, the state of philosophical instruction is the less to be confounded with that of Philosophy in general, because philosophical study is nowadays pursued in far wider circles than formerly. In this as in other respects we have become a more practical nation. We no longer consider it indispensable that the doctor who would heal the sick, or the advocate who would help his clients to their rights, should be familiar with speculations on metaphysic or on the philosophy of nature and law. We leave it more than we did to the voluntary interest of students, whether they should pursue philosophical studies or not, and certainly, in consequence of this absence of constraint, the quality not only of the hearers but in the end also of the lectures is improved. It also not seldom happens that men who till their entrance on practical life are wholly engaged in preparation for it, devote themselves later with all the more interest to philosophical work, or that those standing altogether aloof from academic professional learning take part in it. This is most of all matter of congratulation, because it has brought about a freer expression of opinions than was always attained when philosophical discussion was confined within the limits of our academic bodies. The philosopher, who knew himself watched in his political and religious utterances by the authorities in whose hands his promotion lay, was too easily led, even when otherwise an honourable man, to accommodate his views in some measure to the external circumstances upon which he saw himself dependent. The private inquirer, on the contrary, is perfectly free in this respect, great liberty of expression in scientific matters having been long enjoyed in Germany. But the gradually acquired independence of philosophy and the emancipation of many of its representatives from the injurious influence of the learned bodies, have necessarily reacted favourably, if slowly, even on these. In the universities, Philosophy now reckons numerous representatives, who do not feel in the least constrained in the expression of their scientific views by the position they occupy, partly no doubt because

of the greater strength and liberality of public opinion. Against the preponderating advantages of wider circles sharing in philosophical work, must on the other hand be set a dilettantism which shows itself more in Philosophy than in any other branch of scientific literature, and which often threatens to destroy its credit in the eyes of the representatives of the more exact sciences, as much as the metaphysical aberrations of a Schelling or a Hegel. As dilettantism always prefers to attack the highest and most difficult problems, our popular philosophical literature takes up especially with metaphysic; and in this it is strikingly opposed to our Academic Philosophy. At the universities those lecturers are principally run after whose tendency, whether historical or critical, is towards agreement with the experiential sciences; our learned education seems in fact to have passed, in conformity with Auguste Comte's stages of the development of knowledge, from the metaphysical to the positive stage. Far other is the aspect of our Popular Philosophy, of which Schopenhauer, with his great contempt for university-philosophy, may be considered the head and type. It is still deep in the metaphysical stage. If the statistics could be given of our philosophical literature, so largely contributed to by non-academic writers, the result (omitting works of an historical nature which are rather philological than philosophical) would probably be the exact opposite to that of the statistics of our university-lectures. The engrossing subject would prove to be Metaphysic, having in conjunction with it Ethics, and the proportion of works devoted to Logic, Theory of Knowledge and Psychology (after the deduction of school-manuals, mostly of no independent scientific value) would be small.

In now passing to give a short description of the main currents of philosophical thought in Germany, it will perhaps be best to keep separate the Non-Academic and the Academic Philosophies, in each of which again various currents are perceptible. At the same time the division must not be conceived as a perfectly strict one. The inter-action between the universities and the outer world is so manifold that the academic movements often operate in wider circles, and on the other hand the non-academic currents sometimes overflow into the universities, though generally affecting only the non-professional representatives of Philosophy.

I.

The Non-Academic Philosophy, which we will take first, began its course about the middle of the century, with a series of *materialistic* books of a popular cast. Materialism here, as in

France in the previous century, was partly a symptom of the decay of the metaphysical systems, and partly depended on the social and political movements of the time. One important thinker, himself issuing from the school of Hegel and still in some measure conforming to its spirit in his manner of dialectic, had great influence on the emancipation of cultivated people from the prevailing systems, namely, Ludwig Feuerbach. He cannot be ranked with materialists in the proper sense of the word, and yet no other philosopher has stimulated so strongly as he the development of modern German materialism. Man is to him the measure of things, both as regards theoretic knowledge and moral endeavour. Thus he arrives theoretically at a Sensualism which everywhere considers perceptibility as the criterion of truth, and ethically at a Humanism, which is strenuously turned against the egoistic aberrations of human nature. His thoughts on the development of knowledge, on religion, and on morals often come wonderfully near to those of Auguste Comte, although he certainly knew nothing of him. But Feuerbach never got so far as to work up his thoughts into a finished system, for which reason the present generation scarcely knows more of him than his name. It was therefore an opportune undertaking when Carl Grün, some years after the philosopher's death, determined to exhibit at length his import for German philosophy.* Feuerbach worked most powerfully upon Jakob Moleschott, perhaps the most thoughtful and certainly the most suggestive of our materialist writers. Although his *Kreislauf des Lebens* only went through four editions, whilst Büchner's *Kraft und Stoff* has already reached its thirteenth or fourteenth, yet it is easy to see that it was mainly from Moleschott that Vogt, Büchner, and Czolbe, the chief representatives of scientific materialism between 1850 and 1860, received their impulse. In Albert Lange's *Geschichte des Materialismus*, the third edition of which has now appeared after the lamented death of its author, we possess such an excellent account and criticism of modern German Materialism, that we may content ourselves with this short mention of it, all the more that the development of that tendency, which proceeded partly from the decline of the speculative systems and partly from the rapid advance of the natural sciences, especially physiology, belongs already to the past rather than the present. The last of the above-named writers, Heinrich Czolbe, struck out the most original path. His latest work,

* *Ludwig Feuerbach, in seinem Briefwechsel und Nachlass, so wie in seiner philosophischen Characterentwicklung*, dargestellt von Carl Grün. Leipzig und Heidelberg, 1874. 2 Bände.

recently published after his death,* shows, in a very instructive way, how extreme Naturalism is brought almost irresistibly to a point of view not very unlike Berkeley's Idealism. Thus, according to Czolbe, the real essence of the universe consists of sensations which must have in and for themselves a spatial character, and are thus extended in three dimensions, or rather in four, since time may be considered the fourth dimension of all that is real. Czolbe retained to the last an opinion to which, about the middle of the present century, our scientific materialism was generally inclined: he believed, namely, not only in the eternity of the universe, but also in its essential unchangeableness, and sought in this simple way to evade the difficulties of the question as to the origin of organic species. How much these theories are opposed to all scientific experience is clear, though they are evidently a consistent development of sensualism. It may here be remarked that amongst academic philosophers Ueberweg, a writer highly valued for his excellent philosophical manuals, inclined to similar opinions, at least in reference to the spatial and real existence of sensations, and thence was led in his last years to a materialistic view of the universe.† The older scientific materialism, as appears most clearly in Czolbe, had no notion of Evolution, which now forms an integral part of every naturalistic theory of the world. Whilst the other writers belonging to it for the most part acquired the notion later,‡ Czolbe remained true to the philosophical tradition in which he was trained, and to the last would have nothing to do with it. On the other hand, Darwinism has of late years had the effect on not a few thinkers of leading them from other speculative systems to materialistic views. This was the case with Ueberweg, in whom Darwin's development-theory helped to overthrow the Aristotelian teleology. But the most striking example of this is David Friedrich Strauss, the celebrated theological critic, who set out from Hegel's philosophy and ended with a confession of faith that unreservedly recognised the results of natural science as alone giving the measure of our theoretic knowledge.§ The

* *Grundzüge einer extensionalen Erkenntnisstheorie*, herausgegeben von Dr. Johnson, Plauen, 1875. An extremely good summary of Czolbe's views and their development is given by Dr. Hans Vaihinger in the *Philosophische Monatshefte*, Bd. xii., s. 1.

† Compare the account of Ueberweg in the 2nd edition of Lange's *Geschichte des Materialismus* (1875), Bd. II., s. 515.

‡ Compare the description that Carl Vogt gives of his changes of opinion, *Vorlesungen über den Menschen*, Giessen (1863), Bd. II., s. 256.

§ *Der alte und der neue Glaube*, Leipzig, 1872; see also the postscript to the 2nd edition, Bonn, 1873.

edition of the collected works of Strauss, now appearing under the direction of Ed. Zeller, will place us for the first time in a position to survey the interesting development which gradually led this eminent critic to his final point of view.* For the rest it is very doubtful whether Strauss's last confession of faith, which is as radical in point of theory as its tendency is conservative in practical and social questions, is properly denoted by the often misused name of Materialism. One of the ablest and boldest representatives of Darwinism in Germany, Ernst Häckel, has, certainly not without reason, repudiated the name, because it implies an immoral tendency, from which the present representatives of Materialism know themselves to be perfectly free. But even on the theoretical side the name is perhaps ill applied. In his *Geschichte des Materialismus* Lange has clearly shown how little the views of Büchner and others agree with the strict notion of Materialism. But if among these older representatives of materialistic doctrine there was a confusion of ideas, and Scepticism, Sensualism, Empirism, nay even bits of sheer Idealism were mixed up with genuine materialistic notions, the views of our present evolutionists no longer correspond in the least with Materialism. In them a strictly mechanical and atomistic theory of the universe is connected with the idea that the atoms possess internal states, and that these internal states in combination constitute what we call psychical phenomena. Such a theory is evidently not Materialism, but may be fitly designated 'Monism,' as by Häckel, to distinguish it from the Dualism in vogue. But it should be understood that in this Monism, represented by many men of science besides Häckel, the material element predominates, in so far as the necessity is recognised of giving a mechanical explanation of the phenomena of matter from atomistic assumptions; whilst for psychical phenomena resort is had to the general phrase—that they proceed from the internal states of atoms. As soon as greater attention is paid to the psychological side of this parallelism of inner and outer experience, the point of view imperceptibly becomes quite different. A striking example of this has been lately afforded by Fr. Zöllner, a writer who likewise began with scientific studies but turned his attention to the problems of knowledge. He too seeks to add a new property to atoms, "by bringing the simplest and most elementary processes of nature into determinate connection with a process of sensation".† Here we see

* Dav. Fr. Strauss, *Gesammelte Werke*, Bde. I., II., Bonn, 1877.

† *Ueber die Natur der Kometen, Beiträge zur Geschichte und Theorie der Erkenntniss* (Leipzig, 1872), s. 322.

the psychical taken as the primary—as involving the deeper reason of material processes. And in fact Zöllner holds that what in our inner experience we call Will proceeds from this sensation in matter. But Will also is with him a universal function of matter: it is Will that is everywhere the cause of motion. Here he attaches himself to the philosophy of Schopenhauer, for whose services in regard to the physiology of the senses he has also sought to win acknowledgment in his attacks on Helmholtz. This blending of scientific Monism with Schopenhauer's philosophical doctrine is not peculiar to Zöllner, but is indeed a feature of the time, other writers having been led independently to similar views. Passing over the like ideas expressed by Rokitansky,* Ewald Hering,† and others, we may here mention especially Häckel's latest work, in which he employs the hypothesis of a memory inherent in the organic molecules to explain the phenomena of development.‡ We thus come upon the second main current of our present Non-Academic Philosophy, which may be described as idealistic in comparison with the more materialistic current we have hitherto depicted. But as it is specially characteristic of this second movement to be dominated by the influence of Schopenhauer, our last great metaphysician, it may not be quite exact to describe it as idealistic, since Schopenhauer himself comes very near to materialism in many of his views, despite the idealistic foundation of his philosophy.

Schopenhauer is the born leader of Non-Academic Philosophy in Germany. The "professorial philosophy of philosophy-professors" is the constant object of his attacks. He declares it unworthy to live *by* instead of *for* philosophy. He deeply deplores that Kant, whom after Plato and Goethe he venerates most highly, should have been a professor, and he ascribes to his academical position all the defects he finds in him. The followers of Kant he treats with studied coarseness. He calls Fichte a wind-bag, Hegel a charlatan, and Herbart's understanding, he says, was wholly distorted. In his judgments he gives the freest rein to caprice. However clear and acute his thinking, at the critical moment logical consistency gives way to brilliant sallies and gusts of temper. His native gifts and his education are of the most varied sort; his artistic sense, in particular, is extremely fine, as in fact his æsthetic doctrines are among the best things he has produced. From such a man

* Rokitansky, *Der selbstständige Werth des Wissens*, Vienna, 1869.

† E. Hering, *Das Gedächtniss, eine Function der organisirten Materie*, Vienna, 1870.

‡ Häckel, *Die Perigenesis der Plastidule*, Berlin, 1876.

we must not expect a consistent system. But where he fails as a philosopher, he succeeds as a writer, who keeps hold of his readers the more his personality comes to the front. Schopenhauer is perhaps the most brilliant, certainly the clearest and most entertaining of our philosophical writers, and he has made it easy for the reader to master his whole system. No other of our foremost writers has laid so wise a restraint upon himself. Although he spent his whole time in philosophical reflection, free from all professional cares and enjoying the most vigorous health till the age of 72, yet all his works together, in the second collected edition now just published, come to no more than six volumes of moderate size.* It would however be a great mistake to ascribe to his manner of writing the reputation that Schopenhauer has acquired after a long period of neglect. The deeper and true reason of his influence must rather be sought in the peculiar nature of his philosophy, which gave expression to the thoughts and feelings of the time. His ethical more than his theoretic views have gained him the sympathies of great numbers of cultivated people. In fact the chief attraction of Schopenhauer's philosophy has not been any of his characteristic doctrines—not his doctrine of the Will as cosmical principle, still less that of the Principle of Sufficient Reason as the ground of our knowledge, but simply his Pessimism, which stands in no necessary relation with his other views. How completely he has here fallen in with the current of his time appears in the affinity of sentiment between him and certain contemporary systems otherwise as far as possible alien from his philosophy, such as Schelling's later doctrines (set forth in his posthumous lectures) and Franz Baader's theosophy. It is remarkable enough that Schopenhauer too betrays a great sympathy with mediæval asceticism. The philosophy of Romanticism, which Schelling and Baader represented in the form of religious enthusiasm, appears in Schopenhauer in a secular guise. His metaphysic is not on that account the less mystical, but it is one of the many contradictions of his intellect that in him mysticism and clear understanding are mixed in an odd fashion, and that he manages to combine such a metaphysic with a comparatively lucid theory of cognition. This combination, too, goes far to explain the success he has achieved. Pure and unadulterated Mysticism is not to the taste of the present age; it must be, as far as possible, reconciled at least in appearance, with scientific knowledge. Now Schopenhauer, in spite of many wayward outbreaks (as against Newton's colour-theory), was yet on the whole not ill-acquainted with the natural

* Arthur Schopenhauer's *Sämmtliche Werke*, herausgegeben von Julius Frauenstädt, 1te Aufl., Leipzig, 1873; 2te Aufl., 1876.

sciences, especially physiology, and he took very good care to avoid the arbitrary constructions of a Schelling or a Hegel in this field.

For twenty years Schopenhauer's philosophy was almost totally neglected. Two disciples of Hegel, the philosopher against whom he launched his most envenomed darts, have the merit of first directing attention to him, namely, J. E. Erdmann in his *Geschichte der neueren Philosophie* (1853) and Julius Frauenstädt, who passed over to him and became his most faithful apostle. From the year 1844, when the second edition of his *Welt als Wille und Vorstellung* appeared, Schopenhauer began to find adherents among journalists and novel writers, than whom none could more effectually help in the diffusion of a philosophy. His varied culture, his refined æsthetic views, his elegant style, soon made him the favourite philosopher of a class which is naturally more attracted by such qualities than by depth of thought, and in which moreover Romanticism had not yet lost all its power. It certainly was men of this class who did most for the rapid extension of the Non-Academic Philosophy. The writers whom Eduard von Hartmann, its most distinguished representative at the present time, gratefully enumerates in the preface to the seventh edition of his *Philosophie des Unbewussten* as the chief promoters of his philosophy—Rudolf Gottschalk, David Asher, Hieronymus Lorm and others—are all influential journalists. Theirs is undoubtedly the credit of having made the philosophy of Schopenhauer and his successors more popular than was ever philosophy in Germany before. For since the invention of printing no philosophical work of the size has ever had such a success in Germany as the *Philosophie des Unbewussten*, which ran through edition after edition from the year 1868 till finally the seventh was stereotyped in 1876. Something indeed (as Hartmann himself allows in his last edition) may be due to the advertising arts of the publisher, who, I doubt not, if the sentence I have just written should come under his eye, will not fail to set it forth in leaded type in the advertisement-sheet of his next edition, though everything else I may have to say about the work should be as unfavourable as possible. It is, however, a great mistake to ascribe, as some do, the success of the whole philosophical movement to such external circumstances. The patronage of of the men of the press is itself a sign that the pessimistic philosophy accorded with a state of feeling widely diffused.

Eduard von Hartmann is the first who sought to introduce serious changes into Schopenhauer's system; and that the time was come for most of these changes is shown not only by his external success but by the fact of his quickly finding followers

who arrived at like conclusions in somewhat altered form. The Metaphysic of the Unconscious had predecessors also. Hartmann himself has given an account of these in his work, and although he lays hold of many occasional observations the authors of which would by no means agree with him in the main, yet it is not to be denied that especially in the physiology of the senses there has been a considerable tendency to explain certain processes by unconscious mental activities. Perhaps, indeed, the impulses that Hartmann received from physiologists have not been less powerful than those that came to him from the doctrine of Schopenhauer. He certainly had as his aim at starting to reconcile Schopenhauer's metaphysic with the results of natural science. This appeared in the motto of his first edition—"Speculative results according to the inductive method of natural science," and we may safely ascribe to this peculiar conjunction no small part of the applause with which his philosophy has been received. The Schopenhauerian doctrine was a powerful attraction to many, but at the present day the exact sciences play so great a part that everybody desires to be on a good footing with them. Even our spiritualistic performers claim the support of 'scientific authorities' for their manifestations. What then could be more opportune than a philosophy that professed to reconcile speculation and natural science?

Hartmann's metaphysical system is an attempt to overcome the dualism of Will and Knowledge in Schopenhauer's philosophy. Schopenhauer regards unconscious Will as the transcendent cosmical principle that first of all objectifies itself for our subjective cognition in the human body, and then, through the brain-processes there arising, produces the world that we know. On the other hand, according to Hartmann, Will and Knowledge form an inseparable unity in the Unconscious. Hartmann passes under review the most diverse functions of body and mind in order to show that there always remains an unknowable something, which cannot be deduced from the conditions supplied by conscious experience, and which therefore must be referred to an unconscious mental principle. This principle on one side is to be conceived as Will because it passes forth into definite activities, and on the other side as Knowledge, since it may be credited with some apprehension of the results that are to follow. In support of his thesis, Hartmann brings forward in the first part of his work nerve-functions, instinct, *vis medicatrix*, organic development, æsthetic feeling, sexual love, speech, mysticism, history—showing no doubt great width of reading but unfortunately without the least critical scrutiny of the sources whence he drew his facts. He places side by side, without the least hesitation, the careful experiments of scientific

inquirers and the reports of spiritualistic enthusiasts or mesmerising charlatans. This utter want of critical sense is very apparent even in the introduction to his work where he sets forth its scope. Here he seeks to justify the assumption of final causes in nature by maintaining that, where known causes do not suffice for the explanation of a phenomenon, unknown conditions may be supposed; and, as in his opinion there is a number of natural phenomena that cannot be accounted for by material causes, there is no help but in assuming spiritual causes, that is to say, *ends*. The argument is set out in the mathematical guise of a theory of probability, which is enough to make Laplace turn in his grave; but there is no doubt that here as elsewhere when he refers to his scientific "sponsors" for facts, he succeeds in imposing on weak minds by this show of exactness.

Consciousness, according to Hartmann, is a higher stage of development of the Unconscious. It is not, as in Schopenhauer, produced by the Will, but it arises through Knowledge breaking loose from Will and then falling into wonder over its independence. With this deduction of consciousness is connected Hartmann's doctrine of Pessimism. The Unconscious stands above all negation, it suffers not, is never weary, doubts not, nor errs. With consciousness there first arises want, and thus a state of discontent and unhappiness, increasing in proportion as illusion vanishes with growing intelligence. Schopenhauer tried to give his pessimism a metaphysical foundation: the creative power of Will, he said, was ever being repressed, and thus it spent itself in restless unsatisfied struggling. Hartmann is determined here also to follow the method of inductive science. He tries to show that, when statistics of pleasure and pain are carefully set off against each other, the sum of pain in human existence is far the greater. That his figures are not very trustworthy need hardly be said. A single glance at his authorities suffices to show how utterly subjective such statistics must necessarily be, and that not the least objective support is thereby got for his preconceived opinion.

Hartmann is one of the most prolific philosophical writers of the time. He is a contributor to various journals, and besides his chief work has published many smaller writings; amongst these his *Selbstzersetzung des Christenthums** and his book against Darwinism† have excited most attention. Although Hartmann in the first of these took ground against our reforming theo-

* *Die Selbstzersetzung des Christenthums und die Religion der Zukunft*, 2te Aufl., Berlin, 1875.

† *Wahrheit und Irrthum in Darwinismus*, 1875.

logians, yet he has not failed of encouragement from these, any philosophical movement that has something of an anti-materialistic character being sure to be welcomed with a certain sympathy. Hartmann can also with reason point to the affinity which many of the philosophic views that have lately proceeded from this circle (especially A. E. Biedermann's *Christliche Dogmatik*) show with his own. With men of science the Philosophy of the Unconscious has not fared so well. If they paid little heed to Hartmann's main work, their attention was all the more excited by his attack on Darwinism. In particular, Oscar Schmidt, the distinguished Strasburg zoologist, has subjected the scientific foundations of the Philosophy of the Unconscious to a merciless and yet, it must be confessed, a thoroughly fair criticism.* It must not be supposed, however, that Hartmann himself is not very well aware of many of his own weaknesses. A number of years ago there appeared a critical examination of the Philosophy of the Unconscious from the point of view of the mechanical philosophy, the best perhaps of all the writings directed against it before Schmidt's.† A rumour has long been current that this criticism was the work of the philosopher himself, and in his latest book he has in fact confessed himself the author of it.‡ Hartmann thus is not one of the infallible philosophers who cannot bear to be contradicted; and, otherwise, the perfectly civil and even polite tone which he assumes towards his opponents contrasts very favourably with the unsurpassable coarseness of his pessimistic predecessor.

From the philosophical side, Hartmann's doctrine has been subjected to formal criticism chiefly by R. Haym § and J. H. von Kirchmann, ‖ but a work that has drawn so much attention, while itself so vulnerable, could not fail to call forth a multitude of polemical writings, not always conceived in the style of grave scientific discussion. On the whole however the literature evoked by Hartmann's work has been friendly, especially when account is taken of those productions that have not been merely critical but have sought to bring forward independent metaphysical views. It is impossible here to give even a list of those

* *Die naturwissenschaftlichen Grundlagen der Philosophie des Unbewussten*, Leipzig, 1876.

† *Das Unbewusste vom Standpunkte der Physiologie und Descendenztheorie*, Berlin, 1872.

‡ *Neukantianismus, Schopenhauerianismus und Hegelianismus*, 2te erweit. Aufl. der *Erläuterungen zur Metaphysik des Unbewussten*, Berlin, 1877. *Cf.* the publisher's advertisement of this work.

§ *Preussische Jahrbücher*, Bd. 31; the critique is also published separately, Berlin, 1873.

‖ *Ueber das Princip des Realismus*, Berlin, 1875.

that have found a considerable circle of readers. I must be content to indicate the chief streams of thought in relation with the Philosophy of the Unconscious. They are, I think, three: the first accepting Hartmann's main ideas without modification; the second seeking to combine the Philosophy of the Unconscious with other speculative elements, especially with Hegel; and a third which gratefully recognises Hartmann's affinity with Schopenhauer, but labours to bring back the philosophy of the disciple to that of the master. Among the champions wholly devoted to Hartmann, A. Taubert* and C. du Prel† are the most prominent. Moritz Venetianer‡ has endeavoured to carry farther the panlogism in Hartmann's philosophy, besides engaging in a sharp polemic against Kant and Schopenhauer; and still more decidedly the attempt has been made by Johannes Volkelt§ to reconcile Hartmann's principle with Hegel's Philosophy. With these also may be ranked Ludwig Noiré,‖ who aims at combining Schopenhauer's philosophy with scientific monism and the doctrine of evolution. On the other hand Julius Bahnsen,¶ who has recently been reviewed at length by Hartmann himself, harks back to the position of Schopenhauer. The philosophy of Schopenhauer has still indeed numerous adherents, who give expression to their views in writings not always of a strictly philosophical character, while they accept as much as suits them from Hartmann or other pessimists. A prominent representative of this pessimistic strain in our literature is Prof. Friedrich Nietzsche of Basel, the successive parts of whose *Unzeitgemässe Betrachtungen*** have drawn much notice. In the writings of Nietzsche and others of the same stamp, the pessimistic mood is combined in a very peculiar way with an enthusiastic devotion to certain ideas closely related to religious mysticism. Richard Wagner and his music are ardently worshipped by this sect of pessimists. The great composer himself was won over to Schopenhauer by the philosopher's profound views of the nature of music, and his enthusiastic admirers declare that the Will has been revealed as

* *Der Pessimismus und seine Gegner*, Berlin, 1873.

† *Der gesunde Menschenverstand vor den Problemen der Wissenschaft*, Berlin, 1872.

‡ *Der Allgeist: Grundzüge des Panpsychismus im Anschluss an die Philosophie des Unbewussten*, Berlin, 1877.

§ *Das Unbewusste und der Pessimismus*, Berlin, 1873.

‖ *Der monistische Gedanke.* Eine Concordanz der Philosophie Schopenhauers, Darwins, R. Mayers und L. Geigers, Leipzig, 1875.

¶ *Beiträge zur Characterologie*, 2 Bde., Leipzig, 1867. *Zur Philosophie der Geschichte*, Berlin, 1872.

** Zweites bis viertes Stück, Leipzig, 1874-76—*Vom Nutzen und Nachtheil der Historie, Schopenhauer als Erzieher, Wagner in Bayreuth.*

cosmical principle in the *Nibelungen*. The most remarkable product of this revival of Schopenhauer's philosophy is the *Philosophie der Erlösung* by P. H. Mainländer (probably a pseudonym), published at Berlin in 1876. A gloomy melancholy pervades this work, which shows clearly how short a step it is from Schopenhauer's Will-manifestations to a system of mystical emanation. God, it is here set forth, was the original Unity of the world, but he is so no longer, since the world broke up into a multiplicity of particular things. God willed that *nought* should be, but his essence prevented the immediate coming to pass of nothingness; the world meanwhile behoved to fall asunder into a multiplicity, whose separate entities are all clashing with one another as they struggle to arrive at the state of nothingness. It is not therefore the Will-to-live, as Schopenhauer said, that maintains the change of phenomena, but the Will-to-die, and this is coming ever nearer to its fulfilment, since in the mutual struggle of all things the sum total of force grows ever less. In the view of this author, the highest moral duty is that negation of existence which would cut short the unlimited continuance of individual life in the future by the cessation of all sexual connection.

With the mention of this book, which is only a somewhat exaggerated specimen of the sort of phantastic speculation, guided more by feeling and temperament than by scientific method, that is rife in our Non-Academic Philosophy, we may now turn to cast a glance on our Academic Philosophy.

II.

In the Academic Philosophy also, we have to distinguish a variety of movements, proceeding mostly from the schools formed by the philosophers of an earlier generation. Kant, Hegel, and Herbart are again the thinkers of greatest influence, but Schleiermacher, Krause, and Beneke have also their adherents. Schleiermacher's philosophy, especially since his death, has drawn no small amount of attention outside of as well as within the circle of theologians. As men grew dissatisfied with the speculative method of Hegel, there were some who readily turned to a philosophy that mediated between Idealism and Realism by ascribing a properly objective reality to the subjective forms of intuition and thought. Schleiermacher's philosophical works were indeed too aphoristic in character to form the basis of a regular school, but his point of view has been adopted by H. Ritter, the historian of philosophy, and by Fr. Harms, as it has also found expression in the well-known logical treatise of Ueberweg. Krause, by reason of his works on the philosophy of law, is most in repute with jurists; Beneke's

following is mostly of practical educationists, attracted by his psychological and paedagogical writings. But besides the various sets of philosophical disciples, there has been for a considerable time a class of independent thinkers busily engaged in the task of working out a philosophy in harmony with the present state of scientific knowledge. Our best course will be to notice, first, the main currents of the School-philosophy departing from Hegel, Herbart, and Kant, and then some of these other philosophers with eclectic or independent systems.

Curiously enough, among all past systems the one that has the most rigid and compacted form, namely Hegel's, has at the present day the fewest thoroughgoing adherents. Wide as is the circle of thinkers who have come under the influence of Hegel, the venerable C. L. Michelet (who has just published the two first volumes of a system of philosophy*) is perhaps the one man in Germany who can still be called an orthodox Hegelian. The foremost representatives of the Hegelian school, when they have not, like Ludwig Feuerbach and David Strauss, taken up new positions, have turned by preference to the History of Philosophy. The chief historians of philosophy at the present day have proceeded from the school of Hegel. The comprehensive historic sense that distinguished Hegel himself remains the birthright of his school. Nevertheless it may be said that our historians of philosophy have done their work better according as they have cut themselves free from the formalism of the system. J. E. Erdmann has gradually emancipated himself in the course of his exposition of the History of Modern Philosophy. Kuno Fischer and Eduard Zeller took up from the first a more independent position. Fischer's *Geschichte der neueren Philosophie*, now brought down to Schelling, with his complementary work, *Bacon und die Erfahrungsphilosophie*, and Zeller's *Geschichte der griechischen Philosophie*, as well as his shorter *Geschichte der deutschen Philosophie seit Leibniz*, are models of historical exposition. The two historians however have a very different notion of their task. Kuno Fischer tries to think himself wholly into the spirit of his author, and then give a free reproduction of his doctrines. Zeller, on the other hand, endeavours to get to the bottom of his subject with a philologist's exactness, and to give his reader the truest possible picture of it.

It is hardly possible to conceive a greater intellectual difference than between Hegel and Herbart. Both indeed accept the fundamental position of ontological metaphysic—that experience must be constructed from speculative conceptions instead of these being wrought out with the aid of experience, but while in

* *Logik und Naturphilosophie*, Berlin, 1876-7.

Hegel we see the daring speculator transgressing all the bounds of knowledge, Herbart, burying himself in a laborious scrutiny of notions and exposing their inherent contradictions, seems as if he would hinder rather than further the solution of philosophical problems. The difference is again manifested in their schools. While the Hegelians have shown a power of comprehending the whole development of philosophical thought, the Herbartians have shown a total want of historical sense: not a single historian of philosophy of any importance has appeared in their ranks. On the other hand their strength has lain in Psychology, where the Hegelians have been weakest; for here again it can be said that the Herbartians have been better psychologists the more they have thrown off the trammels of Herbart's metaphysic. Thus Drobisch's *Empirische Psychologie*, just because it comes to the investigation of internal experience without metaphysical assumptions yet in the spirit of Herbart's rigid criticism, is still an excellent manual, though of course, as it appeared as far back as 1842, it does not represent the present state of the science. Two of the most important psychologists of our time also base, but with greater independence, upon Herbart: Hermann Lotze, whose *Medicinische Psychologie* was the forerunner of our present physiological psychology, while his *Mikrokosmos* has stimulated a wider circle of philosophical readers; and Theodor Waitz who, still more than by his *Lehrbuch der Psychologie*, achieved distinction by his *Anthropologie der Naturvölker*.* The lately deceased W. Volkmann adhered more closely to Herbart's point of view, and his *Lehrbuch der Psychologie*, in the second edition, which includes very full historical references, has become a most useful book. From Herbart also came the original impulse to those investigations, first designated as *Völkerpsychologie* by M. Lazarus, which are concerned about the psychological phenomena of human society, such as language, manners and customs, myths, &c. Lazarus himself, in his *Leben der Seele* (2d Ed., Vol. I., 1876), has published a series of brilliant essays dealing for the most part with this class of subjects. He has besides, in conjunction with H. Steinthal, founded an organ for such inquiries, the *Zeitschrift für Völkerpsychologie und Sprachwissenschaft*, which is already in its ninth volume and includes a great quantity of valuable matter. Steinthal, who takes the greater share in the management of the journal, is at the same its most active contributor, publishing in its pages most important researches in the psychology of language and in mythology. These contributions and his formal works, *Ueber den Ursprung der Sprache*, *Ueber die Typen des Sprachbaus*, *Ueber die Manden-Negersprache*, with

* A second edition supervised by George Gerland, has just appeared.

his *Einleitung in die Psychologie und Sprachwissenschaft*, mark Steinthal out as one of the foremost psychologists of the present time. In addition to Psychology, the Theory of Education has been much cultivated by the Herbartian school, and it numbers among its adherents many practical instructors. On the other hand, R. Zimmermann has made the solitary attempt to treat Æsthetics from the Herbartian point of view, and the importance of his work lies more in its historical information than in its doctrine.* Lotze, who followed Herbart (however independently) in psychology and metaphysic, severed himself wholly from the school in regard to the foundations of Æsthetics.† Yet even on this field it is not to be denied that the ideas of Herbart have had a stimulative influence, though outside the circle of his immediate adherents. If Fechner, in his *Vorschule der Æsthetik* (1876), makes it his chief object to determine by observation and experiment the simplest relations that are æsthetically pleasing or displeasing, his idea is one that may be traced back to Herbart's doctrine of elemental æsthetic relations, though it may have been excited in him more immediately by Adolf Zeising, who, in a series of works,‡ sought to prove the Golden Section to be the fundamental law of Æsthetics. Zeising himself cannot be said to have borrowed from Herbart, being one of those minds, not rare in our midst, who work out philosophical views of their own under the influence mainly of poetic or religious feeling and with little regard to logical system.

In the course of its development Philosophy has not seldom appeared to move backwards, and thus it happened, on the decline of Hegel's system and Herbart's metaphysic, that a return was made to the views of earlier philosophers. First of all there was an Aristotelian revival. The leader of this eclectic movement was Adolf Trendelenburg of Berlin, who both in the way of academic instruction and by his *Logische Untersuchungen* exercised a remarkable influence. As was to be expected at a time when original thinking had come to a standstill, Trendelenburg and his followers occupied themselves chiefly with philological criticism of philosophical works. The movement became of greater account for the development of scientific philosophy when more modern thinkers became the subject of study, and no subject could be equal to Kant, from whom had proceeded Fichte, Schelling and Hegel, as well as

* *Æs'he'ik*, 2 Bde., Wien, 1865. *Studien und Kritiken zur Philosophie und Æsthetik*, Wien, 1870.

† *Geschichte der Æsthetik*, München, 1868.

‡ *Neue Lehre von den Proportionen des menschlichen Körpers*, Leipzig, 1854. *Æsthetische Forschungen*, Frankfurt, 1855.

Herbart and Schopenhauer, and in whom therefore all the different directions of later philosophy are implied. The Aristotelian philology thus passed into a "Kant-philology". The object first sought was to arrive again at a true understanding of the great thinker of Königsberg; but in this way there also gradually arose a "Kant-philosophy"—a Neo-Kantian school which adhered more or less closely to the Critical Philosophy and sought to develop it. "Back to Kant" was the war-cry in which many especially of the younger philosophers loudly joined. Otto Liebmann in his work *Kant und die Epigoner* (1865) was one of those who led the way; but the scholar who has done most for the interpretation of Kant is Professor Hermann Cohen of Marburg.* Cohen indeed is not free from the tendency, pervading the whole movement of Neo-Kantianism, to force the later developments of science by hook or by crook into the language of Kantian formulas; still it must be allowed that he often understands Kant's thoughts and can develop them more lucidly than Kant himself, whose expressions were not seldom so careless and obscure. It has been Cohen's great concern to overcome the apparent or real contradictions that are found in Kant, and his expositions will seem very cogent to those who are without firm convictions of their own, as unquestionably the skilfulness of his interpretations has much helped forward the spread of Neo-Kantianism. Nevertheless I cannot but think the whole movement, so long as its cry is "Back to Kant" not "Beyond Kant," an unhistoric one and destined to have no future, because not seeing the necessity of a continuous development. Orthodox Neo-Kantianism must inevitably lead to reactionary courses, as in the case of Jürgen Bona Meyer, who in his work on *Kant's Psychologie*, however meritorious it is from the historico-critical point of view, would fain rehabilitate the theory of mental faculties so happily expelled by Herbart, for no other reason than because Kant was entangled in it. Some of these Neo-Kantians have coined the word "Criticistic" to designate their aims in philosophy, and the distinction is most significant. Whoever would make a Criticistic Philosophy out of the Critical shows clearly that for him the Critical Philosophy has become dogma, and in becoming criticistic he ceases to be critical. No doubt, even within the orthodox Neo-Kantian school, there has been some attempt to carry farther the Kantian system by applying it to different regions of experience. Thus, quite lately, A. Krause has undertaken a development of the doctrine of the Categories, in trying to bring within them the most varied forms of perception and

* *Kant's Theorie der Erfahrung*, Berlin, 1871. *Die systematischen Begriffe in Kant's vorkritischen Schriften*, Berlin, 1873.

feeling ;* and A. Classen has followed with an attempt to bring even the whole body of physiological optics within their frame.† The diligence and acuteness shown in these works are worthy of acknowledgment, but it is impossible not to feel that they are sadly wasted. For what at the best could come from such efforts except an artificial classification, instead of the explanation that is wanted ?

Already however a counter-current has begun to set in against this Kantianism which has been running so strong. Even within the school the attempt to reconcile Kant's theory of cognition with the results of the later psychology and natural science has led to broad-minded interpretations and far-reaching concessions. For example, A. Stadler, who previously had tried to accommodate Kant's teleology to the present position of biological science,‡ has now in his latest work§ surrendered one of the main supports of the Kantian theory of knowledge—the deduction of the Categories from the forms of judgment, though he would still uphold their metaphysical validity. The disposition to freer criticism of the Critical Philosophy appears also in the publication of a number of works which, expressly leaving aside the question of the truth of the Kantian doctrines, are directed solely to the task of historically explaining their origin, as is done by Dr. Fr. Paulsen‖ in regard to the theory of cognition, and by Fritz Schultze¶ and Konrad Dieterich** in regard to Kant's scientific writings. At the same time a number of our "Kant-philologists" have made a special study of various predecessors and contemporaries of the philosopher. Thus J. B. Meyer made the discovery that Tetens was the particular Wolffian from whom Kant borrowed his classification of the mental faculties.†† More recently B. Erdmann has given us a monograph on Kant's teacher, Martin Knutzen,‡‡ and J. H. Witte a sketch of the life and philosophical development of one

* *Die Gesetze des menschlichen Herzens wissenschaftlich dargestellt als die Formale Logik des reinen Gefühls*, Lahr, 1876.

† *Physiologie des Gesichtssinns*, Braunschweig, 1876.

‡ *Kant's Teleologie und ihre erkenntnisstheoretische Bedeutung*, Berlin, 1874.

§ *Die Grundsätze der reinen Erkenntnisstheorie in der Kantischen Philosophie*, Leipzig, 1876.

‖ *Versuch einer Entwicklungsgeschichte der Kantischen Erkenntnisstheorie*, Leipzig, 1875.

¶ *Kant und Darwin: Ein Beitrag zur Geschichte der Entwicklungslehre*, Jena, 1875.

** *Kant und Newton*, Tübingen, 1877.

†† *Kant's Psychologie*, Berlin, 1870.

‡‡ *Martin Knutzen und seine Zeit*, Leipzig, 1876.

of the earliest of Kant's critics, the remarkable Jew, Salomon Maimon.* Some years earlier, E. Pfleiderer made an elaborate exposition of Hume's philosophy, which had so great an influence on Kant's critical undertaking;† and here we reach the stage in our Kantian literature at which the cry "Beyond Kant" begins to rise above the other. In the last years a series of important books have appeared which, partly working upon Kant and partly amending his doctrines, aim at laying anew the foundations of the theory of cognition. Of these *Der philosophische Kriticismus* by A. Riehl‡ stands nearest to Kant, but the author takes the greatest pains to do justice also to later philosophers. C. Göring comes nearer to the point of view of Hume and Stuart Mill in his *System der kritischen Philosophie* (Bd. I. 1874, II. 1876) which might better perhaps be entitled *Kritik der philosophischen Systeme*, the second volume being devoted to Kant. The most trenchant critic of the Kantian philosophy is, however, Ernest Laas, who has very happily selected for special consideration that part of the *Kritik d. r. V.* which is of greatest importance both for the theory of knowledge in general and the various sciences in particular, namely, the section on "The Analogies of Experience".§

We are thus brought in the course of our review to the consideration of the various attempts to found a new philosophy, more or less independently of the past. Two directions can again be distinguished, an idealistic and a realistic. The *idealistic* is related chiefly to Kant and the Kantian movement we have now sketched. Albert Lange, one of the ablest representatives of this idealistic philosophy, acknowledges, in the second edition of his *Geschichte des Materialismus*, the influence that Cohen's interpretations of Kant had upon him. Lange does not think of standing by all the doctrines of Kant: he allows that the Transcendental Æsthetic needs to have a foundation laid in psychology, and the Analytic to be thoroughly overhauled in the light of the later results of the sciences. Still he is essentially at Kant's point of view, and holds that it is absolutely exclusive both of materialism and dogmatic metaphysic. At the same time he refuses for ethical reasons to be content with this negative result. We must erect an ideal world behind the world of phenomena, and regard it as the true reality of things. The metaphysic that does this is a

* *Salomon Maimon*, Berlin, 1876.

† *Empirismus und Skepsis in David Hume's Philosophie*, Berlin, 1874.

‡ *Der philosophische Kriticismus und seine Bedeutung für die positive Wissenschaft*, Bd. I., Leipzig, 1876.

§ *Kant's Analogien der Erfahrung*, Berlin, 1876.

dream ; its constructions are a deception ; but the deception is a necessity. Straining after the ideal, man has always felt the need of metaphysical invention, and for ever must feel it.* Metaphysic and poetry are thus to Lange closely allied, and amongst all past thinkers he feels himself drawn most to Schiller, who was at once Kantian and poet. Kant himself indeed would little relish such a view, having declared that poetry has as little to do with philosophy as with book-keeping. But, so far as Lange is concerned, we can understand how his view is connected with the predominant interest now taken in History of Philosophy. When Metaphysic is recognised only in the historic succession of past metaphysical systems, the metaphysic of the future inevitably becomes some such idealism as Lange's. The same thought in a somewhat different shape has been urged not less forcibly as the historic justification of Metaphysic by Dr. R. Avenarius in a small but weighty treatise,† where he maintains that every philosophical system tries to meet the requirement of comprehending the universe in the simplest possible manner.

The *realistic* movement in our academic philosophy connects itself much less closely than the idealistic movement with Kant, joining on rather to Locke and Hume or Auguste Comte (who has become known in Germany later than in England) in as far as it is not independent. J. H. von Kirchmann has set forth a realistic theory of knowledge‡ which reminds one of Czolbe's in ascribing objective existence to sensations, yet is otherwise far removed from sensualism, since it assumes original forms of thought co-operating with perception in the production of knowledge. Much nearer to sensualism and materialism stands Eugen Dühring's "Philosophy of Reality,"§ intended thus in its very name to be a counterblast to the Kantian doctrine of subjective forms. According to Dühring, space and time are forms of our sense-perception only because they are at the same time objectively real, and in like manner all such universal relations as causality have not only a conceptual but also a real existence. His criticism of certain ontological aberrations of thought in his *Natürliche Dialektik* (1865) is most excellent; he shows in his

* An elaborate criticism of Lange's philosophical point of view, by M. Heinze, is to be found in No. II. of the *Vierteljahrsschrift für wiss. Philosophie ;* and a sympathetic comparison of his philosophy with that of Dühring and of Hartmann in Dr. Hans Vaihinger's *Hartmann, Dühring und Lange* (1876).

† *Philosophie als Denken der Welt gemäss dem Princip des kleinsten Kraftmaasses*, Leipzig, 1876.

‡ *Die Philosophie des Wissens*, Berlin, 1864.

§ *Cursus der Philosophie*, Leipzig, 1875.

works rare familiarity with the exact sciences; and besides his philosophical writings he has published a very superior *Geschichte der Principien der Mechanik* (1873, 2nd ed., 1876), as also several sociological works, especially his *Cursus der National- und Socialökonomie* (1873). But whatever the extent of Dühring's performance, the majority of realistic thinkers hold that the time has by no means yet come for the construction of a definite philosophy; and indeed this opinion is shared also by those idealists who look upon a development of Kant's doctrine as the immediate work of the future.

Thus from different sides it is coming to be more and more seen that for the present there can be no question of setting up comprehensive metaphysical systems which, like those that have just gone down, must seem to the next generation phantastic illusions rather than works of science. The recent foundation of a journal (edited by Dr. R. Avenarius) with the advancement of "Scientific Philosophy" for its aim, shows plainly that the time is past when philosophy can hope to live apart from the other sciences. We see accordingly, at the present time, all interest turned on those two departments of philosophy that are of most account for the building up of a universal science, namely, Psychology and the Theory of Cognition. As regards the former, we have already taken note of the works of the Herbartian school in anthropology and comparative psychology; and now the new science of "Physiological Psychology" is busily concerned with the mental life of the individual. The Theory of Knowledge, besides being separately treated, is included in all the newest expositions of Logic, dominated as these no longer are by the old formalistic conception. The most remarkable of recent logical works are those of Lotze* and Sigwart,† to which should be added various memoirs by C. Prantl,‡ the able historian of the science, and Albert Lange's posthumous *Logische Studien* (1877). The philosophical movement in Germany presents everywhere the spectacle of preparation for a step to be taken forward. New weapons are being sought in the arsenal of experience and of the human mind wherewith to carry on the old struggle round the eternal problems of thought and existence.

W. Wundt.

* *Logik: Drei Bücher vom Denken, vom Untersuchen und vom Erkennen*, Leipzig, 1874.

† *Logik*, Bd. I., Tübingen, 1873.

‡ In *Verhandlungen der kgl. bairischen Akademie der Wissenschaften.*

V.—THE LIFE OF JAMES MILL. (III. Conclusion).

In the previous paper (Mind, No. IV., p. 509), the end of the year 1808 was reached, and from this point we now make our start. One purposed omission, however, must first be supplied.

The numerous local traditions respecting his father's family are tinged with dissatisfaction, not to say censure, of James Mill's conduct towards his relatives. Many years ago I heard from a native of Montrose that he had allowed his only sister to sink into absolute poverty without rendering her any assistance. My recent inquiries have revealed a similar strain of disapproval. He is commonly styled "a hard unfeeling man". There is a confidently received tradition, that he was in vain applied to for a contribution to purchase a cow for his father in place of one that had died; another version putting his sister in place of his father. Fortunately, the letters to Mr. Barclay make us aware of the true state of his relations with his family, and are calculated to produce an impression considerably at variance with the popular view.

At the time of Mill's going to London (Feb., 1802) his family may be said to have been a wreck. His mother was dead. The precise date is unknown; but she listened to her son's sermon, formerly described, sitting not in a pew of her own but out of sight behind the stair. She had then a consumptive cough, and was in a state of great debility. The father had become paralysed, and was unfit for work. As if this was not enough, the only brother, William, who worked with his father, and should have been the stay of the house, was also disabled (said to be from some accident), and soon after died. The one active person was the sister, May, and she was not equal to the burdens thrown upon her. A journeyman, named William Greig, had worked with the father for some time, and on him devolved the carrying on of the business. Soon after James Mill went to London, Greig married May, and so became the head of the house, with its invalid charge.

The picture is not yet at its darkest. The old man was bankrupt. The explanation is casually furnished by his son, in a letter written long after. He had been asked on one occasion to give his name as a security, and in answer wrote as follows:—"You will not wonder that the risks of being security for others should appear to me terrible, when I tell you, as I think you must know already, that my own father ruined himself by that means and, instead of being (for his station) a man of opulence, lived and died a poor one; and that the horror of being liable to risks in this way was therefore one of the earliest and deepest

of my impressions." No farther light is gained as to the circumstances referred to; and the fact was entirely unknown to all my informants in the locality. Indeed, the surviving relations are not disposed to credit the circumstance.

This complicated situation of distress was what Mill had to deal with while he was commencing his career in London. Every one of his letters to Barclay contains some reference to the subject; and, indeed, most of them are written expressly on that account, although other matters are thrown in by the way. In the first communication, April 17 (the letter where he describes his journey and first impressions in London), there is a thankful acknowledgment of a letter from Barclay respecting the family, but no particulars stated, except in a postscript anxiously desiring another letter of information, in case his brother William should not be well enough to write. The next letter, June 2, implies that Barclay has written very fully about the family, and taken much pains with their affairs, and it is emphatic in thanks, while disclosing the depths of their misery: "By long distress they are less able to manage their affairs than I could wish, and their affairs are more difficult than they have been"; "I shall never forget the friendship of you and of a very few more"; "you understand their circumstances better than any other body"; "I shall look upon it as a very particular act of friendship, if you will pay them some attentions, and not let them be in want of anything, and whatever assistance they receive from you, I shall be most happy to repay". The third letter, three months later, states that he has not heard from the family in the interval, which he attributes to William's inability to write, and desires to hear again from Barclay soon, not, however, exclusively with regard to his own relations. The next letter is at an interval of five months, Feb. 11, 1803, and makes the first reference to his father's bankruptcy; Barclay being still his indefatigable deputy. The creditors are soon to be called together. Mill is impatient to hear that they have met, and announces his own intentions. "I want them to get fairly divided among them all that is to divide. Peter Laing, of course too, must get his share, for that for which I became security to him. And as to that particular at which you hinted in your last letter, I cannot but be obliged to you, for your desire to ease me of my burden, which I am not obliged to bear—but I am resolved to pay every farthing of debt which my father owes to every creature, with all the haste that I possibly can; and he and I both must try to live as moderately as possible, till that be accomplished. I wish you to let his creditors know that this is my intention." He then adverts to the arrangements of the household, and

gives us the truth in the story of the cow. Approving of Barclay's advice that his father and May should have the 'ben' house, and W. Greig and his sister the other (the marriage had not yet taken place), he thinks they will do better to part with the cow, which had hitherto been a part of the family *ménage;* milk, &c., they could get from Barclay's farm, and May would be able to turn her time to profitable work, probably in shoe-binding. The next allusion is to William's death; and the letter expresses pleasure at Barclay's information that he was "perfectly happy till his death, his spirits not sunk, nor had he lost hopes of recovery"; circumstances strongly suggestive of consumption. At an interval of three months we have another letter charged with troubles. William Greig, who has just become May's husband, has written to his brother-in-law complaining that he is not communicated with respecting the state of the family; he has further detailed some very unpleasant interference with him and his wife, on the part of the neighbours, who are indignant at their neglect of the old man. Mill is very much distressed at all this. He exculpates his sister from any cruelty to her father, but dilates upon her youth, her inexperience, and her being a spoiled child; on this last head, he had often remonstrated with her father, with the usual amount of thanks for his pains. He laments that he is thwarted in his attempts to make his father happy in his last years. At the same time, he strongly censures the neighbours for their interference, and trusts to Barclay to give him "a true and sensible account"; reiterating his thanks for the management of his father's affairs. In less than a month he writes again. He has received a satisfactory explanation of the disagreeable incident, and is well pleased with the advice given to his sister by Barclay and Barclay's mother. "She (May) has now, poor creature, but few friends about her, to whom she can look either for advice or for protection; and though her conduct has often vexed me, and still more the conduct of both her parents with regard to her, I cannot forget that now she is not in a very happy situation." He ends by desiring Barclay to ask his mother to give "some idea of what will be necessary in the year to maintain my father". Six weeks afterwards, we have a letter chiefly occupied with the settlement of his father's affairs. One of the creditors had been raising an action, on his own account, before the business could be wound up. He reiterates his "sincere and unalterable resolution" to pay off the whole of the debts, as he is able; but refuses to be bullied by any individual creditor, or to give a pledge as to time. He is at this date (Aug. 15, 1803), "oppressed with business". No further communication, till the new year. In the intervening months, his father's affairs had

been advanced towards a settlement through Barclay and Mr. Peters, who had both written to him. He is full of gratitude for their friendship. He returns to the point of his father's maintenance. William Greig declined to mention a sum although putting in strong terms the trouble of keeping him. Mill wished to give as much as any other creditable family would think reasonable. We are left to infer that an arrangement speedily followed this letter. There is no other till August, when he writes to clear up some misapprehensions about the payment of the money to Greig. He apologises for writing few letters, "from the necessity of writing so much every day, that I am glad to take a little rest when my necessary task is done". There is now a gap in the correspondence of nearly two years. On April 4, 1806, he writes from Rodney Street, seemingly with no other object than to get some personal news of his old friends. He had had, as usual, from Sir John Stuart, a pretty full history of the recent doings in the neighbourhood, but he wants other particulars still. The same frank enclosed a letter to Mr. Peters about his father. On the 7th Feb. following, there is a letter on another unpleasant incident in the bankruptcy. One creditor, Laing, a tanner in Brechin, had been harrassing his father, before he left Scotland, and he had stopped his mouth by a written promise to pay the debt as soon as he was able. Laing is now bankrupt, and has given up Mill's letter to a London creditor, who bases on it a sudden demand for £50. Mill writes for information, as the immediate payment of this sum will not a little distress him. The interval separating this from the only other letter that has been preserved is thirteen years. Before mentioning its purport, I may state what is known of the circumstances of his family in the meantime. His father appears to have died in 1808. His sister has given birth to three children, a daughter and two sons. All accounts represent her as extremely poor in the early years of her wedded life. Very strong expressions on this head were used in my hearing, by those that remembered her well. There was no good reason for such a state of things; and it is attributed to the want of business steadiness of her husband, who carried on the father's occupation. When her two sons were old enough to enter the shop, they, by their industry, redeemed the fortunes of the family, and strove, with ultimate success, to better their position. In October, 1820, when the eldest son was fifteen, and the second about nine, Mill writes once more to Barclay. A friend named M'Conachie had said that it was both his and Barclay's opinion, that "it would be a good thing for my sister and her family if they were enabled to open a little shop". He now asks what is the sum that it would be necessary for him to

advance; "much cannot be expected, both because my income is small, and because my own family is large"; "however, I am anxious to be of use to them according to my means". What was the result of this application, I cannot tell; but probably nothing came of it. Mill had now been a year in the India House, but his salary was as yet only £800, and we do not know what liabilities may have survived from previous years; he certainly would have been as good as his word. May's family remained in the cottage long after this date; she herself died in 1837, in the bed where she was born. Some time later, her sons went to Montrose, and set up business as drapers, which the elder (James) still carries on. Their father died in Montrose, at an advanced age.

These are the facts as given in Mill's own letters. I have now to add that there is in the minds of his sister's family a strong conviction that their mother was unjustly treated in consequence of the large sums spent by the father in the education of his eldest son; they hold that there was even some express stipulation whereby May was to be repaid her share of this money, which she never was. There is no collateral testimony bearing upon this point: and the statement being *ex parte*, I cannot give an opinion upon it. If the claim has no other foundation than the fact that Mill's parents expended much more money upon him than upon the other children, I suspect that neither in the higher nor in the lower ranks would usage support it. Moreover, as Mill cleared off his father's debts, he did much more than make up for all that had been done in bringing himself forward. He also took upon himself the exclusive burden of his father's declining years; and we see that he was ready to listen to any proposal for helping his sister. It is evident, too, that, from the moment of May's marriage, her husband took up a hostile position towards him, such as to repel whatever good offices he might be disposed to render to her family.

The only other matter that I will notice in this painful part of the biography is that among some members of the Barclay family there is a tone of disparagement for the want of gratitude on Mill's part for all the kindness he had received from them. The feeling has not been expressed to me by those that I have conversed with. I cannot learn that it is borne out by any facts; and it is belied by the existing correspondence. Two members of the family, who especially exerted themselves to procure information for me, were greatly moved in Mill's favour by perusing the letters after these had been put into my hands by their cousin, the daughter of Mill's correspondent.

Returning now to the main story, we resume at the year

1808, and shall have no convenient break for eleven years. The narrative cannot be conducted onwards year by year; at least until a number of subjects that overlap and entangle have been viewed as preliminary.

And first of Mill's connection with Bentham. There is no record of how or when this began, but it was not later than 1808. The wonder is that Mill was six years in London before obtaining the introduction. Most of the incidents of the friendship are given in Bowring's *Life of Bentham*, and the extant correspondence between the two has been inserted there. Unfortunately, the narrative of facts as far as Mill is concerned is not always correct. In one place Bentham is reported as saying that Mill's family lived with him (in the country) half of every year from 1808 to 1817 inclusive; while, in a letter to Rammohun Roy, he says that for the half of each of five years "he and his family have been my guests". Neither is the exact truth. About 1807, Bentham had for his summer residence Barrow Green House, Oxted, in the Surrey hills. Here, by John Mill's account, his father and family must have spent parts of several summers; but probably no one whole summer. In 1859, this house became the residence of Mr. and Mrs. Grote, and I remember meeting John Mill there, and hearing his early recollections of the place and neighbourhood and of Bentham's walks and habits. In 1814, Bentham rented the still more magnificent residence, Ford Abbey in Devonshire, and there the Mill family lived with him in the four consecutive years from 1814 to 1817. Bentham was exceedingly attached to this residence, and gave it up with great reluctance. I find from his and from Mill's letters, that they left London in early spring, and did not return till after the new year, so that in point of fact their stay each year must have lasted nine or ten months.

The questionable part of the allusions to Mill in the Life of Bentham is contained in two passages (*Bentham's Works*, X. pp. 450, 482) professing to quote remarks made by Bentham in conversation. So inaccurate seemed the statement of facts, and so unfair the estimate of Mill's character, that, on the occasion of the passages being quoted in the *Edinburgh Review*, they were controverted by John Mill, in a letter to the Editor, published in the number for October, 1843. From that letter it would appear that the visits to Barrow Green were comparatively short; for although spread over several years they are said not to have exceeded six months in all.

Bentham was insatiable for Mill's company, and did everything he could to secure it. From the house at Pentonville, Mill frequently walked down to dine at Queen's Square, a

distance of nearly four miles. In 1810, Bentham gave Mill for a residence Milton's house, of which he was proprietor, and which was close to his own. Mill's family lived there a few months, but it was found unhealthy especially for Mrs. Mill, and it had, unfortunately, to be given up. To make matters worse, Mill seemed unable to find a house to his liking nearer than Newington Green, a mile and half farther off than Rodney street. It was the house, No. 45 ; and next to it is one much larger, 43, where lived the grandfather of Mr. Taylor, the first husband of Mrs. J. S. Mill. The family stayed here four years ; John Mill's recollections of this period are given in the *Autobiography.* Mill still trudged down at short intervals to dine with Bentham. There is a tradition in the family that during the panic of the Williams murders (Dec., 1811) Mrs. Mill used to sit trembling for his return from Bentham's late in the evening. At last, in 1814, Bentham succeeded in obtaining Mill as a neighbour. He leased the house, No. 1 Queen's Square, now 40 Queen Anne's Gate, and let it to Mill (it is said) at the rent he had been paying for his previous houses, between £50 and £60 a year. It is a large commodious house, worth nearly double that money, and gave good accommodation to the growing family for sixteen years. It is, in fact, the residence principally identified with Mill's London career. It was in the same year that Bentham entered upon Ford Abbey.

The intimate and amicable relations with Bentham, and their intellectual communion, are already in print. Mill took a great deal from Bentham, and expended much of his strength in expounding Bentham's views; in which respect he was the foremost of Bentham's disciples. Latterly, when Bentham found many other associates, and some flatterers, he was less dependent on Mill, and allowed himself to use the expressions that John Mill commented on. Not unfrequently he spoke of Mill as 'cold,' 'selfish,' and 'ungrateful'. Even in the height of their familiarity, there is a curious letter written in 1814 under Bentham's roof in Ford Abbey (*Works*, Vol. X., p. 481), which deliberately assumes that they were too much together, and proposes that in future they should see less of each other, and in particular, that he should not come another season to Ford Abbey. The occasion of the letter was that Bentham was offended, because Mill had remitted walking with him for a short time; Joseph Hume having been on a visit and having given Mill the benefit of his horses to see the more distant country. The difference must have been patched up by Bentham's coming round, for no interruption of intercourse actually followed. At a much later time, an incident occurred that pained Mill, and operated somewhat towards their estrange-

ment. He had the full range of Bentham's library, and made free use of the privilege. One morning, he being absent at his official work in the India House, Bentham, without warning, sent across and removed all his own books from Mill's shelves. That Mill, on his return, should feel indignant, we do not wonder.

About the same time that he knew Bentham, he became acquainted with Ricardo; their friendship is amply stated in the *Autobiography*. On his death, Mill wrote an eulogy upon him in the *Morning Chronicle*; this, John Mill said to me, was the only newspaper article his father ever wrote; so completely was his early newspaper editorship discounted.

One other friendship must be mentioned. Probably it was through Bentham that Mill became acquainted with General Miranda, a native of Venezuela, who spent his life in endeavouring to emancipate his native province from Spanish rule. He had an eventful and chequered career; and at various times resided in England, being well received by the highest political personages. He was an admirer of Bentham, and was to have introduced into his own country a Benthamic code. His last residence in England seems to have included the years 1808, 1809, and 1810; he left for good on his last revolutionary attempt, in October, 1810. By an act of basest treachery, he was delivered, in 1812, into the hands of the Spanish Government, conveyed in chains to Madrid, and there immured under the Inquisition, till his death in 1816. In the last years of his stay in London, he was a frequent visitor to Mill. There has been preserved a record of one of his visits to Mill's house at Pentonville, on the 16th May, 1810. On that occasion he told an anecdote of Pitt so curious that Mill jotted it down at the time, and it remains among his papers.*

There is reason for supposing that his views on Religion took their final shape between 1808 and 1810. What little I am able to add to John Mill's explanations on this point (*Autobiography*, p. 38) I will state here. When he left Scotland, he was undoubtedly a believer in Christianity, although attached more to the 'moderate' than to the 'evangelical' school. His attitude to religion, during the years of the *Literary Journal*, we have already seen; he might then be on the way to scepticism, but he had not reached the goal. His mental history from 1806

* Count Woronzow, the Russian Ambassador in England, frequently complained to General Miranda of the vagueness and uncertainty of Mr. Pitt's communications. He said that, after a three hours' conversation, expressly carried on for the purpose of ascertaining the most important points, he had found himself totally at a loss to write to his Court to say what had been the result of the conversation.

to 1808 cannot be indicated. That his acquaintance with Bentham would have hastened his course towards infidelity, it is impossible to doubt. Bentham never in so many words publicly avowed himself an atheist, but he was so in substance. His destructive criticisms of religious doctrine, in the *Church of England Catechism reviewed*, and still more his anonymous book on Natural Religion, left no residue that could be of any value. As a legislator, he had to allow a place for Religion, but he made use of the Deity, as Napoleon wished to make use of the Pope, for sanctioning whatever he himself chose, in the name of Utility, to prescribe. John Austin followed on the same tack; but the course was too disingenuous to suit either of the Mills. It is quite certain, however, that the whole tone of conversation in Bentham's more select circle was atheistic. In Mill's own family, there is a vague tradition that his breaking with the church and religion followed his introduction to Bentham. Strange to say, the most authentic fact that I have been able to procure, is that the instrument of his final transformation was General Miranda. Unfortunately, we have nothing but the bare fact; it was stated by himself to Walter Coulson, one of his intimate friends of later years, but the circumstances have been withheld. Neither Bentham nor Miranda, nor any one else, would have made him a sceptic, except by the force of reason; but they may have set his mind to work to sift the question more completely than he had ever done before. Miranda's biography gives us no assistance on this point; his patriotic struggles are described, but his phases of faith are not touched upon except in the incident of his ignominious burial by the Spanish priests. We can fall back upon the observation, often made, and repeated by Mill himself in his notes on Villers, that when a man threw off Catholicism, he had no available standing ground between that and atheism. Hence, the free-thinkers in Catholic countries have usually been atheists. Mill says, "the two most celebrated infidels we have had in this country, Hume and Gibbon, had spent a great part of their youth in France, and were intoxicated with the vanity of imitating Frenchmen".

If we knew less of the facts, we might easily suppose that a mind of Mill's cast, finding in the Edinburgh book-shops Hume's *Dialogues on Natural Religion*, would have been carried away by the style of reasoning there employed, and have taken in the seeds of his ultimate scepticism. But Mill, like his countrymen generally, was proof against Hume; and possibly had not read the book, or if he did, it would be for giving a refutation in his Latin discourse before the Presbytery.

John Mill tells us that his father's greatest difficulty in regard to Religion was the moral one; but he partly admits, and should have been still more express on the point, that, in the end, the whole question becomes intellectual. If there be a difficulty felt in reconciling the moral character of the Deity with human misery, ways of meeting it are pointed out; and, the process at last consists in weighing and balancing opposites, which is eminently an intellectual function.

For some time after his marriage, Mill himself went to church; and the children were all baptised there. The minister that baptised the eldest was Dr. Grant, probably rector of the parish, who used to dine at the house, and meet General Miranda. John as a little boy went to church; his maiden aunt remembered taking him, and hearing him say in his enthusiastic way that "that the two greatest books were Homer and the Bible". As regards father and son, the church-going did not last; but the other members of the family continued the practice.

Negation, pure and simple, *sans phrases*, as Mill held it, was a rare thing in the cultivated society of the time in England. It was more frequent a few years earlier; but the beginning of the century, says Godwin, witnessed a change of feeling on religion. Mill's doctrinal views were very strong meat even to the most liberal of the young men that became his disciples. I knew one distinguished man, who had been well accustomed to deism, but was considerably distressed on hearing Mill declare that we could know nothing whatever of the origin of the world.

On the subject of Christianity, Mill used in conversation to say that the history of the first centuries needed to be wholly re-written: and I am not sure that he did not at one time think of doing this himself.

I must now advert to another connection that Mill kept up during the years that follow 1808. In the *Life of Macaulay*, Mr. Trevelyan adverts to the great services rendered to this country and to mankind by the Clapham brotherhood, which comprised Wilberforce, Zachary Macaulay, Babington, Thornton, and others. He remarks, that in their mode of carrying out their anti-slavery and other philanthropic enterprises, "they can be regarded as nothing short of the pioneers and fuglemen of that system of popular agitation which forms a leading feature in our external history during the past half-century". The services of these men are, indeed, great and undeniable. But justice demands an equal reference to another sect, and another set of names, who were in active co-operation with the Claphamites, and not inferior to them in self-sacrificing zeal—I mean the Society of Friends, whose foremost representative for a long time was

William Allen, the chemist of Plough Court. Rivalling Wilberforce in the intensity of his subjective piety, he was inferior to none in energy and devotion to every good work; and, besides being a philanthropist, he was very considerable as a man of science. Allen became acquainted with Mill, not later than 1810, and secured his active co-operation in a literary enterprise, a quarterly journal, called the *Philanthropist*, published for seven years at Allen's own risk. He also secured the advice and support of Mill in public gatherings for agitating his various schemes; and in fact, Mill was one of the philanthropic band of the time, and knew many of them intimately, and, among others, Zachary Macaulay. Allen was worthy of a biography; but the three volumes devoted to him, although bodying forth his piety, his energy, and his science, by the help of diaries and letters, are exceedingly out of proportion to the facts of his life. The *Philanthropist* was projected in the summer of 1810, and one page and a quarter are devoted to it. Again, in 1812, while it was going on, it receives mention in less than three lines; and in all the three volumes, I have not discovered another reference. Mill is mentioned only twice; once he and Ricardo accompany Allen (May 1811) to a meeting at the Freemason's Tavern, for a subscription to Lancaster; and, again (November 1813) he and Fox are taken to a Finance Committee on the Lancasterian School business. Now, although the *Philanthropist* was only an instrument of propagandism for the numerous schemes that Allen worked at, it occupied a very large share of his attention for seven years; and while he had many contributors, Mill and himself were the mainstay of the work: they were in constant communication, and many of his letters to Mill are preserved. The deep-seated divergence of their opinions on religion never interfered with their mutual esteem. Robert Owen's infidelity was a grief to Allen, and he made some vain attempts to combat it; but Mill's views were never obtruded in an unsuitable place. Different was the impression he made on Wilberforce, who, according to Sir James Stephen, was the most charitable of judges. (*Life of W.*, Vol. V., p. 315.)

Another intimacy of Mill's may be touched upon in advance, namely, with Brougham. That the two were acquainted in Edinburgh is highly probable; and from 1808, to the end of Mill's life, the intimacy was kept up. A number of Brougham's hasty notes to Mill happen to be preserved; pressing invitations to dine or to meet somewhere about some public matter, whether in parliament or in the schemes of the day. The younger Mill, from a very early date, conceived a repugnance to Brougham; and used to say that his father was carried away by Brougham's fascination of manner, in spite of

the numerous defects of his character. On one occasion, however, when Brougham, in his Chancellor days, gave public utterance to a panegyric upon the Christian religion, declaring that he had examined its evidences, and found them satisfactory, Mill vented his astonishment and indignation in two pages of foolscap. He says nothing of his private means of judging of Brougham's opinions, or want of opinions, but places him in a series of alternative positions:—either he had examined the evidences, or he had not; if he had, and was satisfied, his judgment in regard to evidences was so worthless, that no weight could be given to any opinion he might hold upon any subject, &c., &c.

In the *Philanthropist*, Mill was not only the leading contributor, but in part editor; yet though the letters show that Allen accounted to him at the rate of sixteen pounds a sheet for articles, I do not discover any traces of his being paid for editorial trouble.

Of his various writings from 1808 to 1819, over and above the *History of India*, our knowledge is limited to the *Edinburgh Review*, the *Philanthropist*, and the *Encyclopædia Britannica*, to which last, however, his contributions did not begin till 1815. As regards the *Edinburgh*, we have a good many of Jeffrey's letters, and can see from them that he was a steady contributor, and always on the outlook for subjects that might prove acceptable.

After these preparatory surveys, I will now give, in the form of annals, the known facts of the eleven years.

For 1808, we have nothing special to record but the publication of an article in the *Edinburgh Review* (October) on Money and Exchange. The author reviewed is Thomas Smith, Mill following up his pamphlet on Spence of the year before, and evidently full of the subject, which was a pressing one at the time. He laments the prevailing ignorance of the doctrines of political economy, and quotes as evidence thereof—"the late Orders in Council, respecting the trade of neutrals; the popularity of Mr. Spence's doctrine in regard to commerce; our laws concerning the corn trade; a great part of our laws, in fact, respecting trade in general; the speeches which are commonly delivered, the books which are often published, and the conversations which are constantly held". The last third of the article is on the Bank of England question, and controverts Henry Thornton's doctrines, then much in vogue.

1809. In the January number of the *Edinburgh*, appeared a very full article on the Emancipation of Spanish America (35 pages). It recounts the entire public career of General Mir-

anda, and was no doubt inspired by him. A second article on the same subject is contained in the July number, where Miranda's 'coaching' is still more apparent; Mill could not of himself quote authorities in the Spanish language. The situation of Spanish South America was one of no little complication; it was in revolt against Spain, while we were assisting Spain at home. The fate of the mother country had first to be decided, either for independence or for subjection to Bonaparte. Under the first supposition, Mill enumerates five alternatives, under the second, three; the one most advantageous to this country, would be for us, having secured the independence of Spain, to secure next the independence of the colonies.

For this year, there is a great deal of interesting incident in the Memoirs of Bentham. First is a letter (July 25) on what was an anxious subject in the small Bentham circle, the publication of Bentham's *Elements of Packing*. Romilly had declared that a prosecution of both author and printer would be inevitable. Mill is anxious for publication, and urges Baldwin to undertake it; it was printed, but not sold for many years.

In the October number of the Review appeared one of Mill's important articles, a review of Bexon's *Code de la Législation Pénale*. The work itself he disposes of, as vague, confused, and vacillating, and substitutes a short abstract of his own doctrines instead; but does not go far into detail. A considerable stir followed the publication of the article, and the irritant was a sentence on Bentham, as being "the only author who has attempted this most difficult and most important analysis; and imperfect as his success has necessarily been, we have no hesitation in saying he has done more to elucidate the true grounds of legislative interference than all the jurists who had gone before him". On the Review coming out, Mill writes to Bentham—"Bexon sadly mangled. The mention of you struck out in all but one place, and there my words, every one of them, removed, and those of Jeffrey put in their place". Another long letter follows (X. p. 453), showing how entirely different had been his original; and saying, that he had fully in his eye Jeffrey's aversion to praise, especially of Bentham, and had, he thought, kept within limits, and so on. Brougham writes to Mill, calling "the praise of Bentham (as it remained) excessive, though perhaps less extravagant than in a passage in your first South America Article". This was the clue to the South American articles. The reference to Bentham is in the first, and is slightly stronger than the present one. This "Bexon" article is, so far as I know, the first of Mill's writings on Benthamic subjects; others are soon to follow.

1810. The year of Mill's abortive attempt to live in Milton's

house, and his migration to Newington Green. By this time, he had been at least three years engaged on India, and he would naturally endeavour to turn his researches to immediate account in the *Edinburgh*, Jeffrey permitting.

An article in April, 1810, is a slaying attack upon the Company's government, under the two heads—Commercial Monopoly, and Government. He first refutes all the pretences for granting the Company a monopoly of the trade; and next reviews in minute detail the vices of the Company's Government. The remedy for the mis-government is curious, and is only given as a hint:—"Instead of sending out a Governor-General, to be recalled in a few years, why should we not constitute one of our Royal Family, Emperor of Hindostan, with hereditary succession?"

There is an article in the August number on a Disturbance and Mutiny in the Madras Army, of which the style and the apportioning of merit and blame to those concerned are very much in his manner.

The August number contains an article on Religious Toleration, based on an anonymous French work bearing on the state of religious liberty in France. The article displays the author's usual energy on this question, and takes a wide scope, embracing among other things the Catholic disabilities.

In the November number, he has a paper of twenty-six pages, on the part of the Code Napoléon referring to Criminal Procedure. There is a full abstract given, and then a series of criticisms from the more advanced position attained through Bentham. The faults found with the Code are pretty numerous, and there is a sweeping remark as to the French way of doing things: "if an end can be attained by an easy but humble process, and by an operose but showy one, they are sure to prefer the latter."

In December, we find him corresponding with Brougham, on matters connected with the Admiralty. Brougham had been pressing the subject in Parliament, and Bentham is very much interested in it.

1811. There are two letters from Jeffrey, in January. The first expects an article, and wishes it before the 7th Feb.; it also encloses a bill for £100, a balance being still due. I do not know Jeffrey's scale of payment at this time, nor how many articles of the previous year (amounting to 95 pages, so far as I know them) it would cover; it, is plain, however, that Mill did not press for his money. The second letter follows in two days; approves of a subject proposed by Mill, but urges him to be gentle, and something else that in Jeffrey's handwriting I cannot decipher. The two articles traceable for this year, are in

February and May. The February article is twenty pages in review of a French pamphlet *Sur la Souveraineté*, by M. J. Chas. The pamphlet is considered to be a manifesto authorised by Napoleon, as an apology for his despotism; and is handled accordingly. The pamphleteer carries the war into the enemy's country and attacks the British Constitution itself, the better to strengthen his case. This only exposes him the more to Mill's batteries.

There is a letter from Jeffrey in March, declining a proposal to write on the Nepaul Embassy; the subject already bespoken by some one that he could not refuse, albeit not auguring well of the execution. The letter then refers to a coming article on the Liberty of the Press, and gives advice—to make allowance for difference of times, to take a candid view of the dangers of calumny, &c., &c. The article is in the May number, twenty-five pages. Its strongest point is the exposure of the utter uncertainty of our law as to what is allowed, or what forbidden; it criticises very severely a saying of Burke's, "that the law would crush liberty, but juries save it". Mill follows Jeffrey's advice so far as to speak of the abuses of liberty; but the way of doing it is his own. "With regard to political subjects, the liberty of the press may be abused in two ways:—the one is, when good public measures, and good public men, are blamed; tho other is, when bad public measures, and bad public men, are praised. Of these two, *we should consider the last as infinitely the worst.*" Jeffrey referred him to the French Revolution. On this he says:—"It was not the abuse of a *free* press which was witnessed during the French Revolution; it was the abuse of an *enslaved* press."

It was in this year that the *Philanthropist* began. Allen is represented as planning it in the previous summer. The title is—"The Philanthropist; or Repository for hints and suggestions calculated to promote the Comfort and Happiness of man".

From the first volume, we have a sufficient idea of the drift of the work. There is an introduction by Allen, on the Duty and Pleasure of cultivating Benevolent Dispositions. The articles that follow are—On the most rational means of promoting Civilisation in Barbarous States; Some successful attempts to civilise the Hottentots; Account of a Society to promote the Civilisation of Africa, in connection with the Abolition of the Slave Trade. Two articles are decisively Mill's;—The Penal Law of England with respect to Capital Punishment, and as connected with the Transportation and Penitentiary Systems. A short article on Penitentiary Houses for Convicted Criminals, giving an account of Bentham's plan, is

also probably his; he was a thorough convert to the Benthamic "Panopticon". An article on the General Education of the Poor soon launches out into Lancaster's system, not exactly in Mill's manner, and gives notice that the subject would be followed up, which indeed it is. The writing on this matter soon waxes to a furnace heat. It was far more than a contest between the merits of two educational theorists—Bell and Lancaster. The remaining articles of the volume are—Penny Clubs for clothing Poor Children; Employment of Poor Women in winter; Refuge for the Destitute; Considerations on War; Sunday Schools.

A letter from Allen, on the 3rd of June, indicates the fervour on the Lancaster question. "We are much pleased with thy reply to the Bellites, it places the merits of the case upon strong grounds. We are now entrenched to the ears and shall fight with advantage—not with cannon balls, but with something far more powerful, when directed to those whose intellect has been cultivated: in such a warfare *even Quakers* will fight, and fight stoutly." I do not find anything in the numbers then published that answers to this outburst, although the matter in dispute had come up in several articles. What Allen must have been reading was part of the MS. of an article of fifty pages that appeared in January following.

For 1812, there are two short articles, in the *Edinburgh*, on Indian subjects, known through Jeffrey's letters that have been saved. One, in July, reviews Malcolm's *Sketch of the Political History of India*, and is chiefly on the constitutional question, as to the best form of government for India; no very distinct solution being advanced. The other, in November, attacks the Commercial Monopoly; and urges farther inquiry, by a Committee of Parliament, into the whole system of Indian policy. Jeffrey apologises for having made some retrenchments on this article.

In the *Philanthropist*, Vol. II., is the long article above mentioned on the Lancasterian dispute. The Church of England organs had been denouncing Lancaster: "it has even been broadly and unblushingly asserted, in a high church quarter,* that Mr. Lancaster, as being a Quaker, is *no Christian*". The cry "The Church is in danger!" had been raised. "Unfortunately," the article says, "the name of the Church has been converted into an engine of war against us. In the use which is thus made of it, we are in self-defence constrained to resist it." "While bishops and archbishops, and deans and rectors, and lords and gentlemen, looked on in apathy, this individual

* *Antijacobin Review*, Vol. XXIX. (Jan.-Apr., 1808), p. 292.

(Lancaster) performed two things: he first proved that the education of the poor might be rendered incredibly cheap; he next conceived the truly great and magnanimous idea of rousing by his own exertions a sufficient number of individuals in the nation to contribute the expense which the education of the whole body of the people would require. . . . While the Dr. Bells and the Dr. Marshes, the Bishop A's and the Bishop B's enjoyed their tranquillity and their ease, without an effort for the education of the poor, without a single school to which their exertions gave birth, Mr. Lancaster proved, &c., &c." Two main accusations had been brought against the system, and are dealt with in the article. First, "the teaching of the poor to read, and habituating them to read the Bible, without inculcating any particular creed, is the way to make them renounce Christianity". In reply, Mill at once puts his finger on the sore, pointing out with remorseless plainness that "the *not inculcating some religious creed* is the mainspring of this objection"; and he meets opponents with an argument that he justly regards "as perfectly conclusive and unanswerable". The second accusation is "that teaching children to read and write, without teaching them the Church of England creed, is the way to make them renounce the Church of England". No sooner has Mill stated this position of his enemies than he declares vigorously: "We believe that no sentence more condemnatory of the Church of England ever was pronounced, or can be pronounced, by her most declared enemies, than is thus pronounced by her professing votaries." He then proceeds to discuss the charge at considerable length, being careful to meet numerous minor arguments more or less closely connected with this principal accusation. Thus the larger part of the article deals with general objections; the remainder in specific replies. Dr. Herbert Marsh, afterwards Bishop Marsh, well known for his criticism of the Gospels, had just published a sermon attacking the Lancaster plans, and to this Mill replies with crushing effect. He then overhauls the *Quarterly* for "an elaborate and designing article against the Lancasterians".

Besides making this grand effort to fight the Church, Mill appears plainly, in the same volume, in two considerable Toleration articles, in which he had always the warmest sympathy from Allen.

A note from Brougham in July introduces a great friend of Indian questions, Mr. Bennet, son of Lord Tankerville, as having promised Mill the loan of his valuable journals and reports on India. In Bentham's Memoirs, there is a letter from Mill to Bentham, not specially important, and an account of his

unsuccessful endeavours to induce some publisher to bring out the *Rationale of Evidence*; the fear of prosecution for libel standing in the way. Mill called their hesitation "weakness"; but with no effect.

The only remaining scrap for this year is a letter from a warm friend of Mill's, the Rev. Dr. James Lindsay, an English Presbyterian minister, whose chapel was in Monkwell Street, in the east end of London.* He was a friend of Mill's next-door neighbour, old Mr. Taylor, and may thus have been introduced to Mill. They had many points of sympathy. The letter is of Dec. 4, and Lindsay is very excited over a trial just to come off, which we discover to be the trial of the Hunts for the libel on the Prince Regent. He has not been able to get accurate information about the names (of the jurymen?); but it grieves him to say that there is not a man among those in the eastern district that can be depended upon. Hunt has no chance except in the absence of special jurymen. The letter then passes to some point as to the signature of the Confession of Faith, which could not have arisen out of any part of the case between Leigh Hunt and the Prince Regent. Mill, apparently having forgotten the circumstances of his own signing the Confession, had desired information from Lindsay. Lindsay, however, had never signed it and could not tell what were the words, but he thought his friend Mr. Taylor might have a copy of the Confession.

1813. A note from Jeffrey, 5th Jan., declines a proposal for another Indian article; one was expected from Mackintosh, and it was well to change hands on so great a subject. An article on Lancaster is accepted, with the caution to adopt a conciliatory tone to the sceptical and misguided part of his opponents. The words "I shall be very glad to have your South Sea Speculators," indicates the opening of a new vein. The note is followed in

* All that I can trace of Dr. Lindsay is that he was minister of the Monkwell Street chapel from 1783 to 1821. He was a man of great liberality of mind both in politics and in religion. His only publication is a selection of his sermons, which the Evangelical critics of the day declared to be tinctured with Arianism. Several single sermons of his on special occasions were also published. His death was very sudden; to happened while he was at a meeting of the Ministers of the Three Denominations held for the purpose of opposing Brougham's Education Bill. Although he was a well known man, I do not find any obituary notice of him that gives detailed particulars of his life, and cannot tell where he came from. The *Congregational Magazine*, in a review of his sermons, speaks of him as accustomed for half a century to subjects admitting of mathematical demonstration; which made him suspicious and slow in his theological deductions. Bentham, in writing to Richard Carlile while in prison, quoted Lindsay as an instance of a theologian that strongly condemned such prosecutions as Carlile had suffered from.

two days with another. After apologising for retrenching the Indian article, Jeffrey asks "to hear for what other articles I am in your debt; for I have formed a magnanimous resolution to get fairly out of debt". He considers that this last number beats the *Quarterly* this time; and thanks Mill for remarks on the number, and invites his free criticism at all times. He then returns to the South Sea article, which "Brougham mentioned to me some time ago as engaging a share of your attention". Hs thinks that a very interesting article might be made, by bringing together all that has been made known of the South Sea Islands since Captain Cook. The letter finally hopes that Mill's health has been restored—probably from one of his periodic fits of gout, which frequently come up in the letters.

I cannot find that he ever wrote the South Sea article. In February appeared the account of the Lancasterian System of Education. The conciliatory tone is not very apparent. It is chiefly an attack upon the English Church for thwarting the education of the poor, with allusions to the progress effected by the Lancasterian schools: in fact very much a repetition of the great *Philanthropist* article. In July there is a short review of Malcolm's *Sketch of the Sikhs.* It is attested by a note from Jeffrey, but the handling of the religious creed of the Sikhs would be attestation enough; he is utterly impatient of calling any of the barbaric creeds "pure deism".

Strange to say, this is the last *Edinburgh Review* article that can be traced to Mill's hand.

In the volume of the *Philanthropist* (III.) for this year, there is an elaborate paper on the Formation of Character with a view to the improvement of mankind; which savours of his hand, but at present Psychology as a subject was in abeyance. A review of Owen's Schemes is probably his. An article on War is certainly not by an honest quaker. A long review of his friend Dr. Thomson's *Travels in Sweden* is sure to be his; and is continued into the next volume. Clarkson's *Memoirs of Penn* is reviewed in the first of three articles; Penn's views of toleration are quoted with strong approbation, and farther enforced by the writer.

A few interesting scraps for this year are presented. In autumn he is at Barrow Green. There is a pressing note from Allen, in September, about the Lancasterian Committee, for which he has secured the zeal of the two Royal Dukes—Kent and Sussex. In the end of October, Mill attends a meeting at Kensington, where the Dukes of Kent, Sussex, and Bedford were present.

On the 14th October, while still at Barrow Green with Bentham, Sir Samuel Romilly sends through Lady Romilly an

invitation to Bentham to visit him at Tanhurst, and to bring Mill, whom Romilly "has long wished to become acquainted with".

In December there is a letter from Dr. Lindsay replying to a solicitation on the part of Mill to use his influence with some East Indian proprietors in favour of Joseph Hume, then aspiring to become a Director. This seems to have been Hume's first object of ambition, on his return from India; and Mill would do everything to help his friend. Lindsay would like to see Hume appointed, but is reluctant to canvass. The letter also indicates that Lindsay had been got to work on the Lancaster Committee.

1814. The year of removal to Queen's Square. The fifth child, James, was born in his grandmother's house at Hackney, where the family stayed while the Queen's Square house was getting ready. This was the first year in Ford Abbey; the experiment of the long domestication with Bentham being, however, on the brink of failure. Bentham himself supplies a full account of Ford Abbey and its amusements (X. 479).

In the *Philanthropist,* Mill must have done a good deal. The second article on Penn is a long discussion of the evils of Unwritten Law. A review of Gilpin's *Lives of the Reformers* is Mill's without a doubt; the argument for toleration is in his strain. So is this sentence:—"All men are governed by motives, and motives arise out of interests; interests are the source from which all inferences from the actions of men of former times to the actions of those of the present may safely be drawn." An Appeal to the Allies and the English Nation, in behalf of Poland, has for its text the good of mankind as the purpose of government; "to behold a union of governments seriously concerning themselves with the happiness of the millions of human beings would be a new scene in the world!" The review of the Life of Penn is concluded in the strain of the previous articles. "How just and admirable are the ideas thus distinctly expressed—nothing in the acts of government, or in the acts of one man towards another, should have any regard to anything in religious opinions except their morality." A short article dictated by the conclusion of peace, is probably Mill's; it expounds the connection of war with barbaric passions, and urges the need of restraint upon the powers of a monarch. An article on Schools for All, opens up the theory of education as a preface to the report of a great meeting in Freemason's Hall. A Comparison of the Sixteenth Century with the Nineteenth, in regard to the Intellectual and Moral state of the public mind, is a review of the Memoirs of Sir James Melvil, and is shown to be Mill's by the terse and spirited remarks on human improvement.

1815. The volume of the *Philanthropist* for this year is wanting in the only copy that I have been able to procure access to, the one in the British Museum. Fortunately one of Allen's letters, the best of the set, reveals some interesting facts. A fragment of a letter from Allen, docketed March, contains the address "Ford Abbey," which shows a very early migration. The important letter of the year is also addressed to the country, date 18th September. The first allusion is to a terrific castigation by Mill of the mismanagement of the King's Bench Prison; the next, to the exhibition (not said who by) of the state of the colony at Sierra Leone. This article had "stirred up so much gall, that it would be delightful to some persons, if the authors could be made to pass through the gates of a prison". But, indeed, a year before, Brougham told Allen that he had been applied to, to say whether the magazine did not furnish grounds for a prosecution. Next Allen lays down very adroitly the maxim of prudence as to dealing with great abuses—to state the *facts* fully, and leave the reader to boil up of his own accord, and so forth. He then goes into the pecuniary position of the *Philanthropist*, and, with a view to making the magazine known, asks Mill to prepare a short and pithy advertisement, indicating what might be put in by way of detail. For the July number, the Sierra Leone article was to be specified. For the next number in October, the bill of fare to be—the Prisons article, an article on a flourishing religious community in America, called Harmony; an article on Wordsworth, forwarded by Clarkson from a Cambridge man (Wordsworth he thinks favourable to morality and virtue, though rather too sentimental); a notice of an attempt to civilise the North American Indians. Next is a request to know the state of the accounts between Mill and himself. Then follows an acknowledgement of a present of Bentham's new book (I suppose the *Chrestomathia*, the project of which he was now busy upon). Allen was on friendly intimacy with Bentham; but spoke of him with reservation:—"Before I can commit myself neck and crop in the concern, I must be assured that it contains nothing at variance with my religious feelings, and prejudices (if you please); but I feel with my dear friend the immense importance of imbuing the rising generation with right notions upon points in which the interest and happiness of every community is deeply concerned." Gratifying letters, also, had come respecting their schools in Paris (France now open). With all this budget, he has not got through half that he wished. Another scrap is full of anxiety for Mill's return to town for the Borough Road Committee; Allen has a new scheme of penny subscriptions among the poor themselves to assist their schools, and enable them to beat the "National with its £60,000".

A letter from Lindsay, on the 20th October, shows the party still at Ford Abbey (now nearly eight months). Lindsay has procured £200 for Brougham towards education. He rejoices that Brougham, whom he idolises, has taken up the law of libel, and the education of the poor. It would appear that Mill had informed him of their receiving at Ford Abbey the visit of a Bishop, on which Lindsay makes the appropriate jokes; wondering "whether you had the hardihood to put in a word occasionally for our guid auld kirk?"

To replace the (apparent) cessation of contributions to the *Edinburgh*, it was about this year that the well-known articles in the *Encyclopædia Britannica* may have begun. The publication of the edition extended from 1815 to 1824. Mill did his very best for these articles, and the seven entitled—Government, Jurisprudence, Liberty of the Press, Prisons and Prison Discipline, Colonies, Law of Nature, and Education—are classical and renowned. In addition, by assistance obtained in Messrs. Black's office, I have been enabled to identify four others—Banks for Saving, Beggar, Benefit Societies, and Economists. As it thus appears that he made a study of Savings Banks, we may attribute to him articles on the subject that came out in the *Philanthropist*. How far he was the contriver or chief promoter of this valuable institution, I am unable to say.

1816. On the 16th of "1st month," Allen writes anxiously, expecting Mill's return to London; he appears to have remained in Ford Abbey all the winter, which would be nearly a year on a stretch. Allen needs for his next number an article of a sheet on a pamphlet respecting the Registry of Slaves in the West Indies; the author is "Stephens," who gave up his seat in parliament because this was not made a government measure. There occurs in the first number an article with that heading. Again Allen urges upon Mill the settlement of the accounts.

A letter, dated January, is from Ricardo, and still addressed to Ford Abbey. It is but an end-fragment, and opens—"fill 8 pages in the Appendix, will that be too much"? John Mill tells us that it was through his father's urgency and encouragement that Ricardo brought out his great work on Political Economy; and to that work we must refer this request. A long letter in February, from that voluminous correspondent, Major Cartwright, is occupied with Westminster electioneering, on which Mill had always to be consulted.

Allen again, on the 3d of March (a fragment); Mill now in town. He asks Mill to a meeting with Wilberforce, about St. Domingo, and forwards a bundle of papers from Hayti. In a scrap of letter, dated June, this year, an Irish gentleman, Mr. Ensor, greatly attached to Mill, who sees much of him

when in London, and writes often from Ireland, seems to respond to Mill's Savings Bank hobby, as proposed by him for Ireland; the tone of the reply is grim incredulity. On the 20th September, there is a letter of Mill's own from Ford Abbey, to his old friend Dr. Thomson, who was at present unattached to any office, and was now for more than a year occupying rooms in Mill's house, by arrangement. He had just been married, and Mill writes a warm letter of congratulation, like a man that attached great value to the married state. From this letter it appears that Mill was now paying for his house, in rent and taxes, about 100 guineas a-year; which was full value. The only other item of interest is that John, now ten, had read that summer "with vast ardour" Thomson's *System of Chemistry*.

Turning to the volume of the *Philanthropist*, I find Savings Banks again; also the Registry of Slaves and St. Domingo—the response to Allen's bundle of papers. But for the indications of these subjects, I could not trace his hand in a marked way in this volume.

1817. This year, the *History of India* goes through the press. The *Philanthropist* is stopped, after the publication of two numbers. The first number is remarkable for a review of Dumont's edition of Bentham's *Treatise on Rewards and Punishments*. The article expounds and defends Bentham at some length, and is to be continued; but never was. In March, Allen sends notes of the Prison at Ghent, to be worked up by Mill into an article, which accordingly appears. In April, Allen writes to urge the publication of a paper on the Establishments for the Poor at Mannheim, and will "be glad to know how thou gets on with the Amsterdam article"; this also appears, headed Charitable Institutions at Amsterdam. The concluding article of the last number is on the Report of a Committee of the House of Commons on the Police of the Metropolis.

Thus, for six years and a half, Allen and Mill carried on a most energetic agitation in favour of a wide range of works of philanthropy and usefulness. They were at the same time, Allen especially, on all the Committees for putting their numerous schemes into operation. The extent of Mill's contributions may be judged from the fact, that at one settlement, Allen accounted to him for $8\frac{1}{2}$ sheets.

The commencement of the printing of the History is marked by a letter, July 22, from the Secretary to the Post Office, Freeling, to Lord Auckland, conferring upon Mill the privilege of sending his proof-sheets through the Post Office free. I was not aware that such a privilege had ever been accorded. The letter shows that such applications were not always successful. Mill was at Ford Abbey the whole time of the printing.

Two letters to Dr. Thomson (Sept. 13 and Oct. 5) refer to his being appointed Professor of Chemistry in Glasgow. There are congratulations, and also regrets, at the breaking up of the Queen's Square connection, which seems to have been very harmonious; all the children lamented the departure. Both Mrs. Thomson and a maiden sister, Miss Colquhoun, were popular; and John had fulfilled a promise to write to Miss Colquhoun. No wonder, when his father styles her "dear Miss Colquhoun".

The letter intimates that the printing of the History would be finished in November. In point of fact, it was published about the new year. The family left Ford Abbey for the last time, in January. The correspondence shows that the residence there was as much as ten months in the third and fourth of the four years.

1818. Notwithstanding the cessation of the *Philanthropist*, Friend Allen is the first to salute the year. Opens (16th of 2d month) with a lament—"I have not heard a single line from thee since my return to England." Always doing business: Prison Discipline pressing now. *Inter alia*, "Owen has made a fool of himself". Hopes that the poor *Philanthropist* may be soon revived. To his great relief, Mill writes, and forthwith is pressed to dine at Plough Court—"a great deal to communicate".

A letter from Mill to Dr. Thomson on the 22d February, revives a forgotten episode of his life. In Hunt's *History of the Fourth Estate*, there is an anecdote to the effect, that Mill, from his singleness of devotion to the Philosophy of Mind, would have resigned his lucrative post in the India House, for the Moral Philosophy chair in Edinburgh; but was advised by his friends there that he had no chance. This anecdote is not discredited by the circumstance that his family knew nothing of the transaction; and it has a certain air of plausibility. The chair was vacated in 1820, when Mill had got his foot into the first step of the ladder of the India House (£800 a year, with the certainty of promotion). It was just possible, I should hardly say probable, that he would have surrendered his future for the chair. The present letter tells us the facts. His ever watchful friend, now the professor of chemistry in Glasgow, warned him of a vacancy in the Greek chair of that University, and set forth the temptations of the chair. Mill weighs the proposal on every side; is tempted by the emoluments and the rank; doubts his chances in a body made up of Tories, not that he is the servant of either aristocratic faction, but that, if Glasgow is like Edinburgh, both would conspire against him. As to influence, he could count upon his old friend Sir John Stuart, and Sir John's son-in-law, Sir W. Forbes. (The electors were the professors, but always under pressure from the gentry.) But now he

discloses to Thomson a secret, as yet to be kept very close. His History had not been out many weeks, and already some friends of his among the Indian Directors had views of getting him into the India Office. One thing more on the Glasgow chair: he fears he must sign the Confession of Faith—a thing he could not do, if signing meant a belief in the book.

The *History of India* was a great and speedy success. The appointment to the India House did not happen till next year. Nevertheless, his struggles may be considered as ended. It does not appear that he was entering on any new projects of work; the only thing on his table, so far as I know, was the series for the *Britannica*. From his tone in alluding to the *Edinburgh Review*, I should think he had given it up on principle. Probably, until the decision of the Indian appointment, he would not conceive any new literary plans.

It is now quite evident that John Mill overstated his father's exertions, wonderful as they were, in saying that he maintained his family by Review and Magazine writing, while himself their sole teacher, all the time of writing the History. I was very much staggered by this assertion, when I first heard it, many years ago, from John Mill in conversation. Two difficulties occurred to me at once, although I did not venture to press them. The one was the enormous quantity of his very compact writing that would be required to realise what was absolutely necessary. The still greater difficulty was to point to the articles. Ten or twelve considerable review articles a year for eleven years would be the least that would suffice; about three or four a year is, however, the utmost we can trace. Mill may have realised about £150 a year, but certainly not more, from his literary work, during those years: so that he must have had other ways of meeting his wants. The four years' residence at Ford Abbey, although more of Bentham's seeking than of his, must have been a great assistance. It appears, too, that his fast friend Sir John Stuart, who was always cognisant of Mill's circumstances, sent a silver cup to his god-son, with a present of £500 (according to family tradition). The cup has no date, but bears an inscription in terms of great respect for both father and son. It is said in the family that the money present was avowedly to send John to Cambridge, but the father set aside this proposal by the reply that John already knew more than he would get at Cambridge (somewhat of an *ignoratio elenchi*). I am fain to believe that the gift had in view Mill's own needs during the composition of the History. The sending of John to Cambridge was pressed upon his father some time after Sir John Stuart's death; and there may be a mixing up of different traditions in the story of

the cup. However this may be, I have heard from very good authority that Francis Place, who took charge of Mill's money affairs, made him advances while he was writing the History; these, of course, were all repaid; but Place would have cheerfully allowed the loan to lapse into a gift, had that been necessary.

It appears from two notes that have been preserved, that John Murray sought and obtained, through Ricardo, Mill's assistance in connection with some of his publications. The notes are civil and deferential in the extreme, and might have led to closer relations, had Mill been so disposed.

So rapid was the sale of the History, that in the beginning of 1819, "we are busy preparing for a second edition". It was in the early months of this year, that the canvass for the India House appointment was going on. There is luckily a letter to Thomson explaining the situation in the beginning of April. The letter touches first upon the History. Thomson had told him about the Edinburgh Reviewer, and he replies that he knows something of the spirit which reigns in that quarter. However, "the reputation of the book is higher than I had expected it to be for several years". He also accepts in good part some observations by Thomson as to his style. Then as to the India Office affair. There has occurred a vacancy in the Examiner's Office. He has been encouraged to apply, and his application is now before the Court of Directors. Several of them are his declared friends; and a good deal of influence of considerable weight has been made with others. The reputation of the History is even a strong recommendation. "You could do a great deal with Thornhill, and I could wish you to write both to him and to Col. Bosanquet, in as strong terms as your conscience will allow." Thornhill is a man to influence other votes. His friends in the Direction say to him—"Accept of anything, however small in the first instance; if once in, we shall be able to push you on".

Mill's friends spared no pains to secure this appointment; Hume and Ricardo made great exertions in the city. Mr. Grote remembered being asked by Ricardo (who had then recently introduced him to Mill) to use his influence with India proprietors. Both the Chairman (Pattison) and the Deputy Chairman were in his favour, solely on the ground of his ability and knowledge of India. There was of course a considerable mass of Tory opposition to be got over. I have heard that Canning, who was President of the India Board, took some part in the affair. One version of the story is that he was forward in urging the appointment; the other version is that he declared his approbation of it, on being appealed to by the Tory party in the Direction to oppose it.

It was on the 12th of May, 1819, that he was appointed "an Assistant to the Examiner of India Correspondence," salary £800. I give his subsequent steps of promotion. On the 10th April, 1821, he was appointed second Assistant to the Examiner, Edward Strachey being first Assistant; salary £1000. He was now fourth in the office. On the 9th April, 1823, he was put ahead of Strachey, and appointed Assistant Examiner, at £1200 he was now second. This rise made the vacancy that led to John's being taken in as a junior clerk. On the 1st Dec., 1830, he became Examiner, salary £1900. He was now chief. On the 17th Feb., 1836, his salary was fixed at £2000. This he enjoyed only four months.*

From the time of his entering the India House, till he became chief Examiner, in 1830, his occupation was the Revenue Department; which was, therefore, the only branch where he exercised direct control. It was his duty to draft all the despatches relating to that department. When he became Examiner, he superintended all the departments; he did not necessarily draft despatches in any one, but read those that were prepared by the Assistants.

John Mill speaks in general terms of the improvements introduced by his father into the Indian Administration, but unfortunately does not specify any precise heads. No one is now left that can speak of the details of his official career. There is no clue in the office to any of his despatches, except the presumption that from 1819 to 1830, he drafted those in the Revenue Department. One would like to have a specimen of his official style; this could have been easily supplied by his son, whose own despatches can all be identified.

Mill's immediate senior in the office, whose retirement placed him at the top, was William McCulloch, a Scotchman also, with whom Mill was on a very friendly footing. McCulloch's reputation as an administrator, is very high; his despatches

* John Stuart Mill was appointed junior clerk in the Examiner's Office, 21st May, 1823. The clerks in those days had no salary, but only a gratuity. For three years, Mill had £30 a year; at the end of that time, he received a salary of £100, with an annual rise of £10. It was, however, in 1828, that he was put over the heads of all the clerks, and made an Assistant, at £600 a year; being sixth in rank. In 1830, he stood fifth, his father being at the top. Early in 1836, he received a step, and, on his father's death, the same year, another; he was then third, but David Hill was made second over his head; Peacock was chief. His salary was now £1200 a year; to which in 1854, a special and personal addition was made of £200 a year. On 28th March, 1856, Peacock and Hill retiring together, he was made Examiner, salary £2000 a year. At Christmas, 1858, on the transfer of the Company's government to the crown, he retired on a pension of £1500 a year.

were regarded as perfect models, and by some held to be superior to Mill's.

One thing is certain, that Mill acquired a very great amount of influence and authority with the Court of Directors. It is doubted whether any one before or since obtained the same share of their confidence. It has been said that, Mill being dead when the Macaulay Commission brought over their new Code for India, the Directors could not trust their judgment so far as to put it in force.

In the Bentham Memoirs, there are scattered allusions as to what Mill might induce the Indian Government to do, in the way of Judicial Reforms; the subject was often mooted between Mill and Bentham. The wide influence that John Mill alludes to must have been apart from the routine of his office.

For the remaining seventeen years of Mill's life, the *Autobiography* is tolerably full, and is sure to be correct. The narrative of the connection with the *Westminster Review* is probably exhaustive. From a few remaining letters and indications, something may be added to bring out the lineaments of the picture.

For the year 1820, I have no traces except some notes from the irrepressible Brougham, then in the excitement of the Queen's trial. They only show his urgency in getting conversations with Mill, with or without special business.

In 1821, Allen writes, and wishes an interview, with a view to a new issue of the *Philanthropist*.

For June and July of this year, there are several letters from the Rev. William Mills, Fellow of Magdalen College, Oxford, and Professor of Moral Philosophy, urging Mill to visit him at Oxford, in Commemoration week. Engagements prevented, but better things are hoped for next year. John had now come back from France, and was also pressingly invited.

In the end of the same year, there are two letters from Zachary Macaulay, with whom Mill had long been acquainted. The first of the two solicits his influence in some pending election, more especially with Townsend of Trinity, Cambridge, and Bickersteth. The other has a variety of topics. It first asks Mill to procure for him in the India House a document by the Court of Directors on the sugar trade of India. The next point is a desire for help for a friend to an intelligent Scotchman; and the conclusion is a warm eulogium on the *History of India*, with an exception to some economical doctrine. Mill pencils at the end of the letter, the name "Mr. Mudie," educated at Aberdeen, co-conductor of the *Dundee Advertiser*, &c.

It was in 1821 that he brought out the *Elements of Political Economy.*

The *Autobiography* tells us that 1822 was the year that Mill began to compose his *Analysis of the Human Mind.* He had taken a summer house at Dorking, where the family stayed six months in the year, he going down from Friday till Monday, and during his six weeks' holiday remaining there throughout. To the end of his life he kept up this arrangement, but for the last years his house was in the small rural village of Mickleham, on the Dorking road, not far from Leatherhead and Epsom. The *Analysis* cost him six of these holidays, being published in 1829.

For 1823, passing over Brougham's invitations as a thing of course, I come to two very interesting scraps from Professor Townsend of Cambridge, who had cultivated Mill's acquaintance with great assiduity, and is now bent upon procuring his consent to enter John at Trinity College. There is also an invitation to visit Cambridge, and see his theological library; it appears that Mill was then consulting certain theological works; Townsend had sent him Michaelis. I believe this was one of Mill's lasting friendships; his influence with Townsend has just been before us. The second letter (27th May) was too late for its purpose. On the 22nd, Mill had written to Thomson, intimating his promotion to be second in the office, next to McCulloch, at £1200 a year; and also that John had been appointed to the Examiner's Office: "He will be in the receipt of a larger income at an early age, than he would be in any profession, and as he still can keep his terms as a student of law, his way to the legal profession is not barred, if he should afterwards prefer it."

There is a letter of the 26th May from the indefatigable Major Cartwright, on the exciting topic of the Westminster electioneering, in which Mill was always one of the Radical leaders. They seemed to be at sea for a candidate; Bentham had suggested Ricardo; the major urges Mill to try if Sir Francis Burdett would take a leading part.

From a letter of Mill's own to Dr. Thomson, in December, we find that the second edition of the *History* was nearly sold, and the *Political Economy* volume all sold.

This was the year of the commencement of the *Westminster Review.*

For 1824, I have nothing new. The following year was marked by the starting of the London University (afterwards transformed into University College), in which Mill took a lead. The project of an Institution for unsectarian education was a very bold one, and certainly but for Mill and

and the people that he worked upon would never have been carried through. Mr. Grote often remarked that it was Mill's personal ascendancy with persons of means, and the trust they placed in his judgment, that more than anything else enabled the requisite funds to be raised. Brougham threw himself into it, and there are notes from him about meetings to consult on the progress of the scheme. Here is one :—" I wish you could look in on your way to the city, as I have a talk to hold with you, on our liberal ministers' having refused a charter as not daring to face Oxford bigotry, &c."

In 1826, the arrangements were so far advanced, that they began to look out for professors ; and, in October, Mill wrote to Dr. Thomson to accept the chemistry chair, supposing it could be made worth his while.

The appointment that gave the Council most trouble was to the Philosophy chair. Mill and his allies put forward a man of ability and liberality of mind, but his orthodoxy being doubtful, the Evangelical Dissenters took a hostile stand, and he could not be carried ; Brougham slunk away at the final push. Another candidate, a dissenting clergyman, conciliated Mill's support by professing to follow Hartley, and Mill took him up as a *pis aller*, and got him elected ; not without the opposition of Mr. Grote, who then, as afterwards, held strongly the incompatibility of clerical vows with the *libertas philosophandi*.

We know that by 1825 the *Encyclopædia* articles were all published. These articles are the final elaboration of all the subjects that he had been writing upon for periodicals during a number of years. He complained, however, in a letter to Constable, that they were hurriedly done at first ; and he revised them for the next edition. As short treatises on the several subjects, they were unmatched. The greatest notoriety came to attach to the one on government, from the Macaulay articles in the *Edinburgh Review*. In the *Autobiography*, John Mill enters into the merits of this controversy, and tells us that it was a turning point in his own views on Logic.

It is commonly represented that Macaulay owed his seat in Parliament to the attack on Mill. It appears from a passage in his *Life* that Lord Lansdowne " had been much struck by the articles ". It is added, however, that Macaulay's " high moral and private character " had determined Lord Lansdowne to offer him the seat. Viewed from one side, the promotion has been regarded as a Whig tribute to his having vanquished obnoxious Radicalism. Notwithstanding, Lord Houghton, in the *Academy*, (April 29, 1876), gives another side of the affair. " His College intimacy with Charles Austin may not improbably have had something to do with this important change in his

destiny, for with Charles and John Austin, and Sarah the beautiful and accomplished translator of Ranke's *History*, Lord Lansdowne long held the most friendly relations". This brings the wheel completely round, for the Austins (including Sarah) were the closest of Mill's own friends.

That Mill warmly supported, with the Court of Directors, the appointment of Macaulay to India, and that Macaulay made handsome amends for his tone towards Mill, are facts that will always be quoted to their honour. Nevertheless, any one that reads the articles now will feel that there was a gain, rather than a loss, to Macaulay's reputation, in withholding them from his collected essays. The want of body in the political thinking leaves the mannerism of the style empty like buckram; and the personalities would tend, by lapse of time, to become more and more distasteful.

We have seen that Mill was a friend of Zachary Macaulay, and although the families did not come together, Mill's relationships were well known to the household. (*Life*, Vol. I., p. 186, 1st ed.) In the interval between the appointment to India and his setting out, Macaulay saw Mill at his house. John Mill remembered his father earnestly counselling him to keep to the line of an "honest politician".

The year 1830 was the culmination of Mill's prosperity. He is at the head of his office. He leaves the Queen Square house for a large villa in Church Street, Kensington, looking at that time across to the gardens. Here, in opulence and fame, he spends his last six years, varied by his summer retreat at Mickleham. His nine children were all about him, John, the eldest, being 24, and George, the youngest, 6. For twenty years the house had been a school, and it continued so while he lived. He was thoroughly habituated to the state of things, and lesson-hearing was a part of his daily work. True, he devolved upon John and the elder children the teaching of the younger, but he always took some part, and never lost interest in the work. After John, the next elder children seem to have disappointed him, and he never looked upon them with any complacency. James, the second son, was destined for the India Service abroad; he was an assiduous student, and appears to have given his father tolerable satisfaction; but there was nothing in his career to show that he had much intellectual gift. The next brother, Henry, was everybody's favourite; I have heard Mrs. Grote describe him as a "heavenly boy". Personal beauty and charms, great faculty not merely for study but for anything that he had to do, unselfishness in the extreme, were the traits that made his popularity. He died of consumption, in his 20th

year; aware that overstrain had crushed him. John watched his deathbed at Falmouth, and, in writing of the event, styled him "the noblest and worthiest of us all". The youngest son, George, I knew personally; he too possessed the family talent, but gave way to the same malady. It is apparent enough that while the father's fine quality of brain was not wanting in the children, John was single in possessing the physical endurance that was needed for maturing a first-class intellect.

The *Autobiography* expresses with sufficient frankness the defective side of Mill's demeanour to his children. Such a phrase as "the most impatient of men" speaks a volume, and we have only to turn the leaves to realise the particulars. He could exercise perfect self-control in his intercourse with the world, and his social and commanding qualities gained and kept friends, but at home he did not care to restrain the irritability of his temperament. In his advancing years, as often happens, he courted the affection of the younger children, but their love to him was never wholly unmingled with fear; for, even in his most amiable moods, he was not to be trifled with. His entering the room where the family was assembled, was observed by strangers to operate as an immediate damper. This was not the worst. The one really disagreeable trait in Mill's character, and the thing that has left the most painful memories, was the way that he allowed himself to speak and behave to his wife and children before visitors. When we read his letters to friends, we see him acting the family man with the utmost propriety, putting forward his wife and children into their due place; but he seemed unable to observe this part in daily intercourse.

I add a few remarks on his friends and associates during the later part of his life. Both at his house in Kensington, and at Mickleham in summer, he had a constant flow of select visitors. Hume, his schoolfellow, was never long absent. Brougham, even in his Chancellor days, would make a dash down to Mickleham on a Sunday. Neil Arnott was very congenial to him, and shared his confidence. Mr. and Mrs. Grote's society was always cherished. Cameron, who went to India as a colleague of Macaulay, was a visitor. He had as a neighbour at Mickleham, for some time, Sharp, well known as 'Conversation-Sharp'. Their walks and talks were frequent. John Mill, who had so many chances of hearing good conversation, considered himself as peculiarly favoured in accompanying his father and Sharp in their walks. Henry Bickersteth, who became Lord Langdale and Master of the Rolls, was attached to Mill in no ordinary degree. Besides being a frequent visitor, he used to take a

summer-house near Mickleham. The reader of the two volumes of his Biography, when informed of his being offered the Mastership of the Rolls, is startled to find that Mill, whose name had not occurred previously, is the man whose judgment he sought before he could bring himself to accept. On the other hand, Bickersteth was Mill's counsel in the composition and style of his last work, the *Fragment on Mackintosh*, and induced him to make many alterations in the way of softening its tone. Mr. Strutt (Lord Belper) and John Romilly were friends from a very early date, and were among the Mickleham visitors. Walter Coulson was his frequent Sunday companion in London. Mr. Roebuck was a very early friend both of father and son. Charles Buller and Molesworth used frequently to visit him together; Molesworth struck him greatly both for ability and for having the courage of his opinions. Mr. Charles Villiers was one of the band of youthful listeners. Of the Austins, and some others, ample mention is made by John Mill.

The Sunday walk was a regular institution of his life; his walks on other days were necessarily limited. He had cultivated the power of prolonged walking as necessary to his health, and John and the rest of the children were habituated in like manner. The Sunday excursions were often very long indeed; and some even of the younger men spoke afterwards of their fatigue as passing endurance.

From early years, Mill had been a sufferer from gout, and was subject to periodical fits. In advanced life, this turned to disease of the chest. For two or three years before his death, he had a winter cough; it was in the autumn of 1835 that he became seriously ill; all that winter he had to be at home, his strength steadily failing, but not his mind. His son James had gone to India, and he proposed to write him a monthly letter. The first was in March, 1836, and would be very interesting as a domestic picture if I had room for it. A month passed, and he wished to keep to his engagement. He wrote the following sentences, which may be given as being his last composition. "I would not let this opportunity pass without saying a word to you. But as the rest, I suppose, have told you all the incidents, and I am worn out writing to the Governor-General and Macaulay and Cameron, I shall reserve my contribution till the next time. My great complaint now is weakness, but that is extreme and most distressing. However, they say that needs but a little time and good weather, which has hitherto been wretched." This was the 4th of April. He sank gradually and died on the 23d of June, 1836. He is buried in Kensington church.

A. Bain.

VI.—CRITICAL NOTICES.

Natural Law. An Essay in Ethics. By Edith Simcox. London: Trübner & Co., 1877.

This thoughtful and able work is in many respects the most important contribution yet made to the Ethics of the Evolution-theory. It may be described generally as an attempt to show that the modern scientific conception of man and his relation to nature, so far from involving rejection of the moral element in humanity, is capable of yielding a solid basis for ethical system. Previous essays there have been in the same direction, notably by Mr. Darwin, and in a more general style by Strauss in his latest manifesto, while the question as to the possibility of applying the doctrine of Evolution to practice has been debated at various times in the pages of this journal. Miss Simcox's work, however, is more than a fragmentary discussion; it is a comprehensive, laborious, and thoroughly reasoned attempt to lay the foundations of a scientific theory of ethics.

It is of course evident that a thinker's ethical views must be entirely or almost entirely determined by his underlying metaphysical conceptions, his *Weltanschauung*, and, as a consequence, that criticism from a different point of view must be to a large extent merely formal. In the present work, the philosophical basis assumed throughout is that commonly and somewhat loosely called the Evolution-theory. Man is regarded as "the chief and most interesting among the many marvellous products of natural evolution"; "human ideas, feelings, and beliefs" are supposed "to have been evolved by a continuation of the same process which fixed the nature of the things thought, felt, or known about"; all thought is transformed sensation, and all sensation has a physical basis; in short, in man the forces of nature, or some of them, have become conscious. Man is a portion of nature, and all the filling-in of his consciousness has come from nature. The problem for theoretical ethics is to determine what in the nature of man and his environment has given rise to the peculiar filling-in which we call on the one hand 'consciousness of obligation,' on the other 'the moral law'. In this way one might not unfairly state the objects of Miss Simcox's essay. The answer briefly is:—that the orderly and constant pressure of the constitution of things induces in every organism a constant or normal tendency towards those courses of action suited to its own preservation and perfection; that in man the normal tendencies resulting from the nature of things take shape as Law, Morality, and Religion; and finally that the sense of being constrained, limited by objective reality, the volition of others included, is consciousness of obligation.

The work itself is divided into eight sections or chapters, the eighth being of the nature of an epilogue. In the first a definition of Law is put forward, intended to be sufficiently wide to cover laws of nature in the scientific sense, ethical law, and law in the juridical acceptation of the term. "Law is a statement of constant relations posited by the nature of things." The objection which occurs *in*

limine to any identification of physical and ethical law is scarcely met, and much ambiguity is caused by the terms 'constant' and 'nature'. Let it be granted that a certain course of action results from the pressure of objective facts upon human will; let it be granted further that reason, taking a view of circumstances, will uniformly direct to such modes of action as we now call ethically or legally good; and that consequently both law and morality may be said to have their foundation in nature, yet there is a wide difference between these uniformities and the uniformities of physical fact, which we call laws of nature. The qualification attached to these ethical laws by the author, that they must be felt by the conscious subject as affecting his will, removes them at once from the class of physical laws. Further, when it is said that law formulates a constant tendency, and that ethical laws formulate tendencies towards certain ends which we know by experience to be (so far) constant in human nature, there is an important difference between such uniformities and constant physical relations. These laws are consciously recognised by the subject, they become the content of his volition, but he may act in opposition to them. What the author puts forward, apparently in answer to some such objection,—"To say that man can disobey the laws of his nature is to deny that he *has* a nature," seems really to depend for its force upon some ambiguous use of the term 'nature'. Indeed throughout the work there is constant difficulty with regard to nature, natural inclination, and the like. The term is used in two senses, one much more comprehensive than the other. In the first sense, every action whatever, being the outcome of human volition, is natural; in the second, only the permanent, *rational* courses of action, or tendencies leading to action, are natural. It is when used in this second sense that we have the word 'nature' qualified by the adjective *true;* and as synonymous with it, we have the expression *normal*, normal order, normal tendency. The wide difference between a normal law and a natural law scarcely requires to be pointed out.

The second section, on Customary and Positive Law, is in the first instance devoted to statement and proof of the thesis that law is grounded upon and expresses certain tendencies—that laws, to use Hegel's words, "express what the individual is and does". The argument, including the criticism of the opposed theory, that law is founded on command, is admirably conducted; the conclusion is substantially the well-known proposition that positive law is declaratory. "The substance and provisions of any law are necessarily limited by the nature of the subject, the real relations of which—natural, social, moral, or political—it is in fact the function of law to enumerate." "Law is the organised liberty of all the members of a society, and obedience to law merely the *Wille zum Leben* of the social organism. From the last statement there follows at once an answer to the further question, What classes of acts are prescribed by law? The acts consecrated by law are in brief the external conditions for the realisation of self, for the development of one's own nature in society. This is so far identical with Kant's doctrine of Right,

though the foundation for it, and the grounds of its universality are stated differently.

Law then being the organised liberty of the community, we have next to inquire as to the binding force, the consciousness of constraint which accompanies the thought of law. The solution here presented we have some difficulty in grasping. "Sense of constraint" is defined to be "consciousness of causation". "Human life is determined by other conditions than human desire, and consciousness of these conditions *is* consciousness of constraint." Undoubtedly this is consciousness of constraint, but not of the constraint in question. The universe is not exactly constituted so as to satisfy every desire; we are checked and baffled on every hand; and this is in a sense consciousness of constraint. But the constraint to be explained is that pertaining to certain tendencies of our own nature, tendencies which we ourselves affirm. Why are these permanent tendencies, expressed in laws and observances, felt as obligations? The author states clearly enough when the feeling of constraint arises (pp. 75-6), though the terms employed are much too general. Why speak, *e.g.*, of "persistent forces," "permanent *outer* influence"? Action may be restrained by force or outer influence, but the will cannot be obliged by either. "It is necessary," the author says, "for the maintenance of society that men should make certain sacrifices of their own inclinations in their dealings with one another," and, it is rightly pointed out, "men do not feel obliged to make the sacrifices because the law commands, the law commands because men feel obliged to make them". This is not a complete answer, but it comes near to what we conceive to be the true solution. The constraining force, or, rather, the natural fact from which constraint arises, is the necessity for individual sacrifice to the good of the community. Mere recognition of this necessity is not the sense of obligation; *this* is the consciousness of a permanent, natural tendency towards the preservation of the social organism, a rational tendency, with which my individual or particular will harmonises. It is this reasoned will by which the individual feels himself bound and in connection with which he has the sense of obligation. Further aspects of the same problem come before us when we pass to the third section, on Morality.

After pointing out that Duty or Obligation always involves reference to the subject who is bound, in fact, is a subjective necessity, the author puts the question,—What classes of actions are enjoined by the moral law? The answer is given by an analysis of the notion 'Good,' leading to a definite statement as to the final end of human activity. Natural good is the perfection of any thing after its kind, and the only things "found good always and under all circumstances are those which conduce to natural perfection, and not merely to the natural perfection of one individual or class, but to the perfection of classes or individuals in so far as their perfection harmonises with the perfect development of other kinds". Sensible good or pleasure is not co-extensive with natural good, and need not

in all cases harmonise with it. The arguments in this connection bearing upon Utilitarianism seem deserving of great attention. Moral good or virtue is the pursuit of natural good under difficulties which render the pursuit self-conscious. If the world were perfect, if our best tendencies could be realised without clashing with others, there would be no virtue, no moral good, no right. Only because obstacles are in the way of our strong tendency towards natural good do we become aware of this tendency, able deliberately to prefer it, and conscious of moral obligation. The obstacles are three-fold: those arising from the environment, which is not always favourable to our normal tendency; those arising from certain counter-tendencies in the organism itself; those resulting from the fact that the supreme excellence to be attained is not a fixed quantity,—the type or kind is progressive.

Putting aside for the moment the definition of Good, we have still to ask how does this conscious tendency towards natural excellence impress us as obligatory? Here, as in the case of legal obligation, there is some difficulty in seizing the author's meaning. "All our permanent tendencies are for things permanently and constitutionally good, good in themselves all through and in every relation, and to these we naturally think it 'right' or practically best that passing partial goods should be systematically sacrificed." That is to say, our strongest influences are towards natural good, and, if circumstances were propitious, the organism would instinctively follow them out. But when we become conscious of this tendency—conscious through its being opposed—how does it impress us as obligatory, as what ought to be carried out? What is the nature of this consent which is yielded by the mind? Why is the "normal preference" for virtue, felt as a law, superior in kind to the momentary impulses, and demanding obedience? It is exactly at this transition-point between instinctive action and conscious acceptance of a law for action that we find the author's theory unsatisfactory. The moral law, we are told, formulates the natural tendency of man towards virtue, and apparently it is thought that, when we become aware of this tendency through the presence of opposing forces, we feel ourselves under obligation, constraint. But as before, consciousness of constraint is not identical with sense of obligation. That a tendency towards virtue should come into collision with other impulses, makes us aware of constraint, but the constraint we desire to have explained is the obligation to follow this permanent tendency. That the tendency is natural no one disputes; but there is a wide difference between a natural tendency and a law received as binding on a free intelligence.

We may now look at the mode of expression adopted in stating the final end of activity. Natural good is the perfection of anything after its kind, and for man may be summed up in the word 'ability'. So far in agreement with the Aristotelian view, this definition differs in the use of, and stress laid upon, the conception of 'kind'. It must be acknowledged as a defect in the work that the central idea, that of the 'normal nature,' *das allgemein-Menschliche*, is left com-

paratively vague. When natural perfection, or, as Strauss puts it, conformity to the idea of Kind, is laid down as the final end of human effort, we require a careful analysis of what is involved in such an idea. It can scarcely be said that such analysis is here given, and the term 'kind' is inadequate for practical purposes. An "intelligent eclecticism" will carry us a very little way, and when we reflect upon the equivalents for 'kind,' *viz.*, 'type' or 'ideal-type,' we are as far from a satisfactory conclusion. The normal nature exists in each man, but the normal nature can only be the assemblage of powers capable of realising normal ends. Mere ability, the adaptation of faculty to purpose, cannot be regarded as a sufficing object, though, as the author grants, it satisfies the definition of perfection. There must be some objectively existing standard by which to estimate the value of human ability. Fresh difficulties start up when it is considered that the idea to which our nature has to conform is not the type as actually existing, but the type as it is going to be. On the whole it must be said that the content of this notion of natural perfection, even taking into account what is said in the later sections, is left in a rather vague state. We should have desired a more complete elucidation of the principle that the natural good of the individual, the realisation of his true being, cannot be attained apart from the natural good of the social organism of which he forms a part, his place in this organism being indeed an essential constituent of his nature. Conscious recognition of this dependence of one upon the whole is the basis of moral obligation; while the consent of the individual will to the legal and moral prescripts in which the common ethical consciousness has expressed itself is the affirmation by reason that these prescripts are the conditions requisite for the realisation of our true nature. The demand for a reasoned, organised system of ethical observance is never adequately met; morality is always ideal; but each stage of moral culture may be transcended by a truer perception of what makes for universal good.

The fourth section is devoted to Religion and, though closely connected with the author's ethical theory, contains little that bears directly upon its fundamental positions. It is an elaborate essay, worthy of more attention than can be here given. The general result follows at once from the philosophic premisses assumed throughout the work. If the whole content of consciousness is but the effect of impressions from the physical universe, it is clear that what corresponds to the specifically religious feeling must be some aspect or aspects of this universe. The germ of religious feeling is found in the "general apprehension" of a Not-ourselves, on which we are dependent. The perfected religious sentiment is the feeling consequent on recognition of the fact that the general tendencies of this Not-ourselves are for good, a feeling which leads to identification of our will with this moral order of things, to love and admiration for it.

The fifth and sixth sections, on the Natural History of Altruism and the Natural Sanctions of Morality, conclude the ethical theory. In the first, a very able account is given of the origin and nature of

disinterested action. It is well pointed out that the majority of natural tendencies are not motived by desire for personal pleasure. "The largest part of his (man's) existence is actually and potentially determined by the tendencies of healthy life within and around him, and consists in more or less conscious service of co-operation with those tendencies, while only the lesser part is determined by a craving for the personal *sense* of healthy life which constitutes the good fortune of the happy."

The sanctions of morality are treated as the consequences of any breach of moral law, dislike for these effects operating as an additional motive in favour of the rule; *e.g.*, "the natural sanction of the natural law against murder is the impossibility of bringing the dead to life". The ultimate sanction by which any virtuous action is enforced is "the knowledge of the natural effects of the omission; the consciousness that every single failure to act as human justice and charity demand is irremediable in time or eternity; that by the act which we call wrong, we contribute in our measure to make the world other than seriously and deliberately we would have it to be—to mar creation out of wantonness and imbecility".

The seventh section, on Social and Individual Perfection, is an attempt to fill in the ideal of natural perfection which has been recognised as the final good. Such an endeavour, it is plain, is one of enormous difficulty. To sketch a perfect organisation of society in its several departments is certainly no slight task; still harder is it to reconcile the claims of society with the individual's right to full development. When we come to close quarters with the ultimate end 'perfection,' and have to ask, what is the most perfect form of political machinery? what is the best system of economy? we are embarrassed with all but insuperable difficulties. As to what is here said on the first of these problems, the ideal polity, we have some difficulty in discovering whether liberty or authority is advocated, whether it is thought best that the sphere of government should be widened or contracted, and, if either, on what principle. With regard to the second, the remarks on political economy seem to us largely erroneous. It is absurd to credit economists with such a doctrine of Supply and Demand as is stated at p. 311. We should be inclined to say that the orthodox doctrine may be summed up in the principle that cost determines natural value; the possibility of "unlimited depreciation" was never admitted by any economist; and the dishonest purchase of goods may be admitted in economical practice, but is unknown in economical theory. Much of the argument on 'over-production' and trade-unions is superfluous. What practical remedy is proposed for these evils we can hardly say; only one definite suggestion, abolition of hereditary property, being made.

Many of these concrete difficulties, bearing upon reforms and usages perhaps of old standing, bring to light a curious opposition between two portions of this ethical theory. The permanent or normal tendency is towards good; how are we to discover whether or not a

tendency, which seems permanent, is also normal? The instance of property acquired by descent seems in point. The tendency to admit this method of transmitting property seems permanent, if we judge by duration of time; and yet there can be no doubt that in some respects the custom gives rise to a most unequal distribution of wealth and to consequent economical difficulties. It would be necessary therefore to deny to it the epithet 'normal'. We would merely suggest that the words 'permanent' and 'normal' have by no means the same force and may easily denote facts quite opposed.

In a notice of a work so comprehensive as Miss Simcox's, it is of course impossible to do more than draw attention to a few of the salient doctrines. The book is unusually rich in suggestive remarks, and everywhere bears the impress of genuine hard thinking. It is matter for regret that the difficulty inseparable from so close and compact an argument is aggravated by the qualities of the author's style, which must be pronounced wanting in lucidity and precision.

R. Adamson.

Pessimism: A History and a Criticism. By James Sully, M.A. Henry S. King & Co., London. 1877.

This work proposes to supply what is undoubtedly one of the wants of the time. To give an account of the metaphysical and other theories of two remarkable German speculators is the author's starting-point, but to deal with the entire problem of human happiness is his goal. The text of the book is 'Pessimism'—the view that represents human life as utterly worthless, but the discussion comprises Optimism as well, and arbitrates between the two.

The work is both historical and critical. We have first a short review of Unreasoned Optimism and Pessimism, the stage anterior to formulas and theories. The healthy human being energises without inquiring whether the result compensates the toil; at this stage men are neither pessimists nor optimists. Yet the busiest life has its pauses of reflection—times of weariness, blows of disappointment—which, if dwelt upon, amount to a conscious pessimism; just as moments of new joy lead one to pronounce the world good and fair. The earliest literatures reflect both theories by turns; and Mr. Sully brings together, in a short survey, the expressions found in the Hebrew, Greek, and Roman poets, that show the alternate moods, with a leaning to the pessimistic. To these he adds illustrations from modern literature. "In modern literature the complaints of life's emptiness and instability thicken and grow still more bitter. In spite of the optimistic influences which belong to Christianity, we find individual writers entertaining the gloomiest conceptions of existence." He cites from Mandeville, Swift, Diderot, Voltaire, Shelley, Byron, Heine, Lenau, Leopardi, Lamartine, and Schelling.

The next chapter is on Reasoned Optimism and Pessimism. This

is the form that appeals to facts and gives arguments in favour of one or other of the two views. The reasoning, however, is not of a very high order, being one-sided for the most part, and disposed to take refuge in metaphysical or ontological assumptions, as well as in theology. Under this head the author reviews Hebrew theology, Indian philosophy, early Greek speculation, the Alexandrine philosophy, the Christian doctrine of life, the Fathers, the Schoolmen, Bruno, Spinoza, Leibnitz, Shaftesbury, Hume, with the later French and German speculators. The question of Evil is ever the pressing subject, and the modes of solving the enigma are dwelt upon.

A chapter is then devoted to Schopenhauer, and another to his successors, of whom Hartmann, as being the most energetic and popular, is selected for a full exposition. I think Mr. Sully is remarkably successful both in analysing the characters of the two men, and in exposing their faulty psychology.

The author now proceeds to a nearer definition of the problem of Life's Worth. The standard of worth is in the last resort human feeling, that is, pleasure and pain, notwithstanding plausible and popular evasions of the test. The recommending of the world to our intelligence, to our æsthetic sense, or to our moral feelings, is not enough. Moreover, the test to be applied must be our actual experience, and not any metaphysical conceptions such as were introduced by Augustine, Leibnitz, and others to destroy the reality of evil. Nor must the results of experience be anticipated by means of metaphysical or theological deductions. Even the bearings of a future life must be subjected to the consideration of the life that now is.

These limitations being stated and vindicated, the author examines the Metaphysical Basis of Pessimism. Here he reviews more particularly the world-principle of Schopenhauer and Hartmann's modifications of it. Then follows the Scientific Basis of Pessimism; and first the Pessimists' Interpretation of Physical Nature. This brings forward the strange but not original doctrine that physical force is unconscious will. The Pessimists' Interpretation of Mind involves certain views of the relations of Will to Desire, and of both to pleasure and pain, which are carefully examined on their psychological merits. Finally, there is the Empirical Basis of Pessimism; or Hartmann's appeal to facts as showing that human life, as it now exists, is a preponderance of misery. The strictures on the looseness of the proceeding are severe but deserved.

In a long chapter, entitled Pleasure and Happiness, the author takes his own way with the question of the Worth of Life.

"We have now completed our examination of the pessimists' arguments, and may gather up the results as follows: First of all, the metaphysical portico, so to speak, of this dark and gloomy edifice was found, after a slight inspection, to contain numerous cracks and flaws, and to offer anything but a certain and safe approach to the pessimists' desired resting-place. Again, the physical groundwork of the structure has proved itself, on a close scrutiny, to be essentially unstable, being built of nothing but purely fanciful hypotheses, and what is more, of hypotheses which frequently run directly counter to experience, and

which involve incoherent and self-contradictory conceptions. Once more, the psychology of pessimism, when its tangle of unexamined ideas is unravelled, shows itself to be radically erroneous. Lastly, the attempt to prove pessimism directly by an appeal to observation, must be regarded as a signal failure, since the method of observation pursued is wanting in those conditions of completeness, impartiality, and precision, which can alone give to a method a scientific value.

"Such being the fruits of our investigation, we may, perhaps with safety, and even with profit, take our leave of pessimism as a system claiming by right of invincible arguments the adhesion of thoughtful minds. So far, it has certainly made out no such claim; and before it can substantiate its right a very great deal must be done in the way of a preliminary definition of the problem, and of a determination of the methods proper to such an inquiry.

"In taking leave of pessimism, moreover, we are really concluding our inquiry into the complete scientific constructions of life-value. As yet there exists, so far as I know, no systematic attempt to ground a favourable view of life on a solid scientific basis. What has been done is very valuable, no doubt, but cannot be said to provide an adequate foundation for optimism. It is neither complete nor scientifically exact.

"In order to illustrate this, let us glance for a moment at the quasi-scientific optimism of the last century. As we have seen, the English ethicists of this period agree for the most part in affirming the coincidence of the individual and the general happiness. Here, no doubt, is a proposition which, if true, supplies a basis for an optimistic view of social and moral relations. According to this, it would seem that everybody most certainly secures his own happiness when he helps on the happiness of others. Here, then, we seem to have a singularly happy illustration of 'a pre-established harmony,' by which an increase of the unit shall result in a more than proportionate increase of the aggregate. But do the facts support this cheering view? The affirmation cannot, I think, be accepted as true, except within certain limits. As I hope to show by-and-by, a wise pursuit of individual happiness will only take a man a certain distance along the road of benevolent effort. It may be, and I think it is true, that such a prudential line of conduct will make for others' good to some extent, but the converse proposition is certainly not true, namely, that to seek others' good is uniformly the best means of realising one's own happiness."

After some further criticisms on the attempts to rear an optimism on psychological theories of pleasure and pain, the author declares that what is wanted is a truly scientific attempt to define happiness and its conditions, and to determine whether the average external circumstances of human life realise these conditions. As Life is to be estimated solely by the standard of pleasure and pain, the discussion seems at once to take the form—Is there, or can there be, a Science of Hedonics? Mr. Sully fairly meets this question, and reviews the various theories as to the conditions, mental and bodily, of pleasure and pain. He points out clearly the defects of all existing theories, and shows very fully the difficulties attending any comparative estimates of pleasure and pain in the various regions of the mind. He certainly does not extenuate the uncertainties of hedonistic calculation, and yet endeavours to do what a scientific treatment ought to do, approaches the problem from well chosen points, so as to

diminish its difficulties. "Let the question be, for example, whether the various susceptibilities of the eye are fitted to bring more pleasure than pain. We suppose, in the first place, a normal and healthy organ. Further, we make abstraction of the relative frequency of the exciting causes, both external and internal, of the eye's pleasures and pains, simply assuming that one is liable to recur as frequently as another. I think that by reasoning in this way one could reach the conclusion that the pleasure which accompanies the various impressions of light and colour, vastly exceeds all the pain which may arise through unfavourable or excessive stimulation, &c. It is doubtful, indeed, whether any single retinal impression of moderate intensity is disagreeable merely as a sensation, and the pains of discordant combinations are not to be compared with those of musical dissonances. There remain, then, the pains of rapid flickering light, of excessive light, and of over-protracted retinal activity. Nobody, I imagine, would say that these would overbalance all the varied pleasures of light and colour of which the eye is susceptible. And if we include the pleasures and pains of ocular movement and of visual form, the superiority of the former class of feelings becomes still more apparent". He goes on to ask us to compare the number of pleasures derived from all the varieties of graceful, pretty, and beautiful forms, with the pains of their opposites; but, here, I think, he passes into a region of much greater uncertainty. Again:—"Take the group of social affections, including not only love, sympathy, and pity, but their opposites—dislike, hate, antipathy, anger, and revenge. Supposing we know nothing about the comparative frequency of the exciting causes in actual life, a consideration of the nature of the feelings themselves would appear to lead us to decide in favour of their pleasurable character." No doubt it might; but the consideration would carry us far into the depths of the philosophy of emotion. Then, on the other hand, there are regions, as for example, the organic sensations, where the pleasures are unworthy to be compared with the susceptibilities to pain from deranged functions. This, however, in my opinion, should be taken in a different aspect, namely, the possibilities of retaining the health of the system, which is an exceedingly tangible subject of inquiry, whether the result favour pessimism or otherwise. Farther, account has to be taken of the relative quantities of pleasure attendant on different orders of mental activity. "For example, one might conclude with sufficient certainty, that, given a fair amount of capacity both for the lower sensuous enjoyments and for the higher intellectual gratifications of science and art, the latter greatly exceed the former." Mr. Sully makes a good contribution to this exceedingly interesting question, which admits of much psychological clearing-up.

Still, these various tentatives, he thinks are, if not absolutely worthless, yet anything but satisfactory.

"There is no simple *à priori* method of approaching the question whether actual life contains more pleasure than pain. We know too little of the nature and the conditions of these opposite states of

feeling, and what we know cannot give us any clear results. It follows from this, moreover, that it is impossible to deal with the question before us by bringing under review all the principal sources and exciting causes of pleasure and pain in the average circumstances of life. The very statement of the question must, indeed, show its insolubility. First of all, it is by no means possible to determine what are the exact results of any given impression, object, or incident of life. Opinions differ immensely as to the relative value of single occasions of pleasure and pain. And, as we have just seen, there are as yet no scientific data for determining the precise intensity of single pleasures and pains, and so their relative values. But this is not all: even if these effects were uniform and ascertainable, the problem could hardly be solved by a consideration and calculation of all the single sources of pleasure and pain. Such a computation would, indeed, be out of the question, even in the case of a single individual. Nobody could reach a very satisfactory idea respecting the worth of his life by trying to get an algebraic sum of all the antecedents of his single pleasures and pains. To attempt to reckon these antecedents, even for a single day, could only lead to a very rough and unsatisfactory result. How much more futile, then, to seek to sum up all the immediate causes of pleasure and pain operating every day in the case of average mankind. Such a problem does not even seem to lend itself to the roughest kind of statistical investigation."

I cannot but admire the candour and generosity displayed alike by Mr. Sidgwick and by Mr. Sully in surrendering, with only a few faint reservations, the possibility of a Science of Hedonics. Basing, as they do, their standard of good on the surplus of pleasure over pain, they appear to convict themselves, in the face of the world, of aiming at the impossible. For my own part, I feel in the position of the Paris judge who, when Dumas modestly disclaimed the title of dramatist in the country of Corneille, is reported to have answered, "there are degrees". A science of Hedonics may not be comparable to Mathematics or Physiology, but it may be greatly better than nothing at all. I should wish to see a full vindication of the applicability of our ascertained psychological doctrines and analyses to diminish the vagueness of the common unreasoned theories of Happiness. Take up the best results attained without psychology, and then show the corresponding results with psychology, and we shall at least see whether science and philosophy count for anything in the guidance of life. Mr. Sully has another road, on which he marches to his goal. "If, as yet, we can derive no assistance from a scientific doctrine of pleasure and pain, and must regard as useless our vague and scanty knowledge respecting the number and comparative frequency of their exciting causes, may it not be possible to reach an approximate result by considering the facts of pleasure and pain themselves as observable both in the individual's own life and in that of others round about him?" Now I think I could show that there is no contrariety between this road and the scientific road. In abandoning a Science of Hedonics, he really carries with him some exceedingly precious beginnings of such a science; and anybody marching that road, without having first tried his hand at the hedonistic calculus, would not reach the desired goal.

The question "Does pleasure exceed pain?" is now to be translated into the other question, "Is happiness attainable?" The author here examines the idea of Happiness. Although resolvable into pleasures, it is not the same as single feelings of pleasure: it relates to permanent sources of pleasure. Under this idea, Mr. Sully rehearses the admitted constituents of happiness—wealth, family connections, and so on. He dwells, as is just, upon the venting of the active energies in pursuit, on the satisfaction of successful effort, on self-culture, the conduct of life on a scheme or plan, the volitional control of our life-material, and, finally, on a regard to the well-being of others. It is impossible to give any notion of the fulness and accuracy of the handling of these points, on which the author stakes the success of his whole endeavour. The conclusion and summing up of the chapter is this:—"It is no longer a question of a given number of susceptibilities with a wholly indefinite number of external stimuli; we have no longer to calculate the net value of an indeterminate series of imperfectly commensurable elements which occur, we know not with what frequency, or in what order; it is a question whether by voluntary endeavour we are able to transform our primitive world or the arrangement of things into the midst of which the accident of our birth has cast us, substituting for this unsolicited order a new order of circumstances and relations, external and internal, bearing the unmistakeable stamp of a positive value". Yet it is not enough to frame an intelligible idea of a life which involves happiness; we must inquire whether such a life is attainable in the existing conditions of the world.

The chapter entitled the Reality of Happiness is perhaps the most testing of the whole work; it must be read to be appreciated. It brings the inquiry to a point, by endeavouring to settle the kind and amount of evidence that there is for an approximate valuation of the worth of life. No one after reading the chapter will deny to the author a thoroughly judicial and impartial tone of mind; and if the reader also brings the same quality to bear upon the arguments, he will emerge a wiser, without necessarily being a sadder man. There is no attempt to under-rate the difficulties. Thus, as regards the hedonistic worth of the fixed circumstances of our environment, it would be foolish to expect an exact result. Yet, for one thing, we may, by surveying large groups of these factors, go some way to balance their favourable and unfavourable aspects. Take the whole influence of Nature on the mind; and it is possible for any one to strike a balance under given conditions, and then to say how often and how far these conditions are realised. Then, again, the influence of hostile forces, such as climatic severities, may be viewed with reference to the evoking of our energies, and we can pretty well determine at what degrees of latitude these show a balance in favour of enjoyment.

After vindicating the possibility of a solution to his problem, the author now gathers up the answers, in the shape of the testimonies rendered by mankind to the worth of life. "If any number of

intelligent and trustworthy persons agree, on a retrospective survey of life, that it has been on the whole more joyous than sad, this consensus of opinion must be regarded as an important piece of evidence in favour of the proposition that happiness in some appreciable measure is a reality." We must not, however, confine ourselves to valedictory estimates, we must take the judgments passed in life's course, making allowance for changing moods. Midway between extreme estimates either way, there is a judgment to which the mind gravitates, in its calmest moments, and in a large number of cases this judgment is a favourable one. Farther, the estimate may be checked by observation. Every observer can pronounce of a certain number of persons within his ken, whether, on the whole, their life has been tolerably happy. No doubt, the most serious part of the problem still remains—What is the proportion of the happy and the unhappy in the past and the existing state of the world? On this most delicate determination, the author's caution, coolness of judgment, and mastery of conflicting elements, are at their utmost stretch; and, whoever is dissatisfied with his estimate, will probably give an equal amount of dissatisfaction by any amended form of it. He thinks that, viewing simply the past and the present, life has a bare positive value.

But now comes the future; the elements of promise, and progress, and hope. To this the author devotes an interesting chapter, in which he surveys all the aspects of progress, not neglecting the losses and drawbacks that go along with the gains. To pick out a few points here and there would not answer any good purpose. Here is the sum of the whole matter.

"We have resolved to measure the value of the world by human feeling. According to this stand-point the world may be said to be good if the whole sum of human life throughout the total duration of the species is found to yield a large balance of happiness. Now I have tried to show that even if the average life of mankind in the past has been a surplus of misery, progress tends to reverse this result by indefinitely increasing the proportion of happy to unhappy beings. If, then, it could be made out as probable that the future duration of human existence is wholly incommensurable with its past duration, we should have some ground for hoping that in its totality it amounts to a positive good. We might then say that, after all, the emergence of our planet out of its ocean of diffused matter was no dire calamity, but rather a felicitous event.

"Yet from our present point of view we may well abandon such subtle reasonings to the purely speculative mind. For all practical purposes the relative value of past and future existence is an idle question. If, on the whole, the extinct generations of men have, along with their dumb companions, lived and laboured only to reap a dreary surplusage of suffering, their death-calmed features betray no after-sense of their woful experience. The story is told and cannot now be altered. On the other hand the absolute value of the future is a matter of supreme moment for our practical instincts. The lives that have to be lived are still a reality, and even to us of the passing hour they seem from afar to send faint cries for apostolic help. It is enough, then, if when we peer into the darkness of the world to be, we can faintly

descry the form of a good which triumphs over evil, and triumphs more and more. Such an inspiring view of the future has, I conceive, been justified by the foregoing argument."

"Now this conclusion appears to me to provide an adequate basis for practice. It presents to us a distinctly visible and attainable goal towards which our efforts may reasonably direct themselves. Even if it could be shown that it is vain as yet for the individual to aim at his own happiness, there remains the alternative of erecting the future good of mankind into an object of life-endeavour. That it is possible, when the appropriate emotional disposition is cultivated, to make this the crowning motive of life, few, if any, will deny. It may be repeated, too, that where there is this benevolent and far-reaching type of mind, the end aimed at is of a character to secure to the individual himself a certain, even though a moderate, quantity of happiness."

Accordingly, departing alike from optimism and from pessimism, the author rests finally in the watchword suggested to him by George Eliot—Meliorism. He thinks, however, that his task is incompletely fulfilled without adding a long and careful survey of the Sources of Pessimism. This chapter is full of delicate psychological discriminations on the subjects of pleasure and pain, and the influences of temperament upon our judgment of the great matter at issue. The conclusion is a very graphic portraiture of the individualities of Schopenhauer and Hartmann, and also of the circumstances in the European situation that favour the reception of their creed.

A. Bain.

VII.—REPORTS.

Evolution of Nerves and Nervo-systems.—Under this title Mr. G. J. Romanes has given in *Nature* (July 19, Aug. 2, Aug. 9) a very full abstract of a Friday evening discourse delivered at the Royal Institution in May, in which he first sought to give a connected interpretation of his Observations on the Locomotor System of Medusæ, communicated, in Nov., 1875, to the Royal Society (*Philosophical Transactions*, Vol. CLXVI., Pt. I.), and Nov., 1876 (*Proceedings*). Having first shown that the Jelly-fish possesses a system of nervous centres or ganglia disposed round the margin of the swimming-bell, in connection with which invisible or molecular waves of *stimulation* pass in the organism, distinct from the visible waves of *contraction* determined by the contractile or quasi-muscular tissue spread over the concave surface of the bell and the dependent polypite (mouth and stomach of the animal)—he details a variety of experiments on three species of Medusæ (Aurelia, Tiaropsis indicans, and Sarsia) which all tend to confirm the theory of the genesis of nerves propounded by Mr. Spencer in his *Principles of Psychology*, namely, that incipient conductile tissues or rudimentary nerve-fibres are differentiated from the surrounding contractile tissues, or homogeneous protoplasm, by a process of integration which is due simply to use.

In *Aurelia* it is shown that extremely severe forms of section may be resorted to, after total or partial removal of the nervous margin, without contractions ceasing to diffuse themselves everywhere from any point of stimulation; and the question that arises is whether these waves are due to the protoplasmic qualities of the primitive muscular tissue, which will of course survive the most varied section, or whether, in spite of modes of section that would be quite destructive of the functional continuity of higher nervous systems, there is not still involved here the conductile function of some primitive nervous net-work. The question is decided for the author by his finding that there are after all limits to the conduction: a spiral section from the margin towards the centre of the bell, if carried sufficiently far, will always come upon some point where the waves are blocked; what is more, the position of this point is extremely variable in different individuals; and, most striking fact of all, at whatever point in the spiral strip the blocking takes place, it is sure to take place completely and exclusively there. These facts are consistent only with the supposition that we have here to do with a more or less integrated nerve-plexus; and that there is present such a rudimentary nervous system is otherwise apparent, for it is found that the marginal ganglia can always be excited to reflex action by a stimulus applied at any point of the contractile surface, even though it be so feeble that there is obviously no wave of contraction started from the point. The whole contractile sheet of the bell presents thus not merely the protoplasmic qualities of excitability and contractility, but also the essentially nervous quality of conducting stimuli to a distance by "lines of discharge". These lines of discharge are extremely varied, and their vicarious action is most remarkable, so hard as they are to block; but this is only what should be expected, on the theory, in an organism so simple and symmetrical. When a block does take place, as in the spiral strip, it generally is permanent; which means that some well-differentiated line of nervous action has been severed and cannot be replaced during the life-time of a mutilated Medusa, *i.e.*, in the course of a few days. Sometimes, however, after a time that varies from a few minutes to a day or more, the obstruction is overcome; and then it may be supposed, in accordance with the theory, that there are other lines in the neighbourhood of the point of obstruction, which it needs only a conflict of molecular impulses from repeated stimuli to throw open. In such instances, the first waves that pass the barriers are, in fact, found to be very feeble, the next stronger, and so on, according as the new passage becomes more permeable by use, until at last the contractile waves pour over the original barrier without any perceptible diminution of their force. The whole process seems to the author a representation within hours and minutes of the immensely protracted history of nervo-genesis on the earth.

Tiaropsis indicans can, with the utmost precision, apply its polypite to any part of the bell which is stimulated; and this localising power, as it implies a more highly differentiated nervous system, with

extremely definite lines of discharge, should naturally be attended with a less degree of vicarious action than appears in *Aurelia*. This is exactly what is found. A slit on the surface of the bell effectually prevents the polypite from localising any stimulus received at a point beyond it. At the same time the stimulus is not, of course, so cut off as to be prevented from reaching the polypite at all (by adjacent lines); accordingly this organ is seen to execute random movements in response to the conflicting messages brought by different lines as the wave of stimulation spreads over the bell. And yet, if only two or three such cuts are made, even these random movements are suppressed—so limited, by comparison with the case of *Aurelia*, is the extent of the vicarious action when the nervous system is sufficiently specialised for localisation of stimuli to be possible. The author further remarks that no trace of ganglionic structure can be microscopically detected in the polypite, though its ganglionic function is so marked. Nerve-cells (as in the polypite) are thus no less than nerve-fibres (in the bell) shown to have their first beginnings in differentiations of protoplasmic substance too refined for the microscope to detect.

Sarsia, a still higher species, is remarkable for showing the first visible traces of nerve-fibres; and therewith appears a corresponding advance of function. Stimuli travel more quickly along its fully evolved nerve-fibres; vicarious action is lessened; and there is the first unequivocal evidence of co-ordination among the marginal ganglia, enabling the animal to steer itself in any required direction.

The author in conclusion urges that, if the theory (specially to be connected with Mr. Spencer's name, though it occurred also to other thinkers) is valid in explaining the genesis of nerves in general, it can be no less valid in explaining the genesis of the highest product of evolution—those supreme ganglia in man whose functional operations are inseparably associated with, however to be distinguished from, thought and feeling. In the hypothesis of lines of discharge becoming more and more definite by use, thus far verified in the lowest grades of animal life, he maintains—

"We have a physical explanation, which is perhaps as full and as complete as such an explanation can ever be, of the genesis of mind. From the time that intelligence first dawned upon the scene of life, whenever a new relation had to be established in the region of mind, it could only be so established in virtue of some new line of discharge being excavated through the substance of the brain. The more often this relation had to be repeated in the mind, the more often would this discharge require to take place in the brain, and so the more easy would every repetition of the process become, until at last the line of discharge grows into a nerve-fibre, and becomes the inherited property of the race. Thus it is, according to the theory, that there is always a precise proportion between the constancy with which any relations have been joined together during the history of intelligence, and the difficulty which intelligence now experiences in trying to conceive of such relations as disjoined. Thus it is that, even during the history of an individual intelligence, 'practice makes perfect,' by frequently repeating the needful stimulation along the same lines of cerebral discharge—so

rendering the latter ever more and more permeable by use. Thus it is that a child learns its lessons by frequently repeating them; and thus it is that all our knowledge is accumulated."

Trance.—In the *Journal of Mental and Nervous Disease* (Chicago, Jan. 1877), Dr. G. M. Beard sets forth a comprehensive theory of Trance, and considers its bearings on human testimony. Trance is the general word he employs to include all the real phenomena represented or suggested by the loose designations—somnambulism artificial and spontaneous, mesmerism, animal magnetism, hypnotism, Braidism, catalepsy, ecstasy, &c. His theory is that Trance in all its forms is "a functional disease of the nervous system, in which the cerebral activity is concentrated in some limited region of the brain with suspension of the activity of the rest of the brain and consequent loss of volition". In some forms, nearly the entire brain may be active, but a large enough part is suspended in its activity to cause all the symptoms. Four main varieties are distinguished: (1) *spontaneous*, as natural somnambulism; (2) *self-induced*, as in trance-speakers, spiritualist performers, &c., who may gradually develop the habit; (3) *emotional* (chiefly under fear, reverence, wonder, expectation), as in the common subjects of so-called mesmeric operations; (4) *intellectual*, as 'absent-mindedness' in its extreme forms. The theory (or hypothesis, as Dr. Beard generally calls it, with a very accurate appreciation of what scientific hypothesis is) explains *(a)* the most distinctive feature of Trance, *viz.*, automatism or loss of voluntary power: "Will may be defined as the co-ordinated activity of all the faculties of the mind, including in general terms perception, the emotions and the intellect," and this is just what is broken up when the cerebral activity is concentrated in some limited region of the brain, instead of the different parts (so far as they subserve different faculties) being harmoniously active as in the normal state. It explains *(b)* why Trance is an abnormal state—a functional disturbance relating to circulation and innervation, without structural change. It explains *(c)* the difference between Trance and Sleep: "Sleep is a normal state, a partial cessation of the activity of all the faculties, a lowering of the activity in all the regions, but not a suspension of the activity of any except the will, which, as we have seen, is simply a co-ordinated action of the faculties"; Trance is a form of waking life. It explains *(d)* the phenomenon of dual consciousness in cases of Trance like those of Félida X. (see MIND III., p. 414; IV., p. 552) and others, with oblivion of the trance-condition in the normal state: the conscious experience depending on heightened functional activity of part of the brain may not be recalled when the balanced, but lower, activity of the whole brain is restored; while yet, on the other hand, "in the trance-state that portion of the brain in which the activity is concentrated would be able to bring to consciousness the acts of the normal life in which that same portion must have participated." [What is here said is not without force, but hardly meets all the facts of the recorded cases of Félida X. and others. The 'abnormal' conscious life in these is not a one-sided life, but is *generally* heightened—is altogether richer and

fuller than the common life. Nor does it otherwise conform to Dr. Beard's conception of Trance, for it involves no want of volitional power: Félida went about her business, and regularly performed all the duties of life, only doing it more efficiently and with fuller consciousness than in her so-called 'normal' state. Closer observation might perhaps have detected some want of co-ordination of faculties, bringing the case within the description of Trance proper. But it is safer to suppose that the so-called 'normal' state is itself a morbid one, and that the other, whether held to be morbid or not, is simply a better one so far as the brain-functions generally are concerned, but one liable to have the lower one alternating with it. Though doubtless related to the special morbid states classed by Dr. Beard under the common name of Trance, the 'abnormal' condition of Félida and the others mentioned by Dr. Beard can hardly be described as trance simply, and brought directly within his scientific theory.] The theory, as Dr. Beard proceeds to urge, farther explains *(e)* the difference betwen Trance aud Death, with which it is sometimes confounded: in such a case "the only hold on life which the deeply-entranced person has, is through the activity of a limited region of the brain, through which feeble movements of the heart are sustained, the body being in other respects motionless". It explains *(f)* the exaltation of some of the physical and mental faculties in Trance, and depression of others: "some one or several of the senses, or some one or several of the mental faculties, or some one or several groups of muscles might be exalted in activity, with entire suspension of the other senses, faculties, and muscles, according to the region of the brain in which the concentration of activity takes place"—as in the cases that happen of mesmerised subjects lifting great weights, of somnambulists with exalted co-ordinating or balancing power, and all such exaltations of the normal senses as are "the bases of many of the popular and professional delusions relating to 'second sight,' 'clairvoyance,' 'thought-reading,' and the like". It explains *(g)* all the familiar physical symptoms of Trance, such as flushing of the face, fixity of position, sighing respiration, accelerated pulse, involuntary convulsive movements, and marvellous and numberless hysteroid sensations; also *(h)* the illusions and hallucinations of Trance. It explains *(i)* the relation of Trance to its admitted predisposing and exciting causes —which are both physical and psychical: "one is physically predisposed to trance, so far forth, who inherits or has acquired a nervous system generally sensitive and impressible; one is psychically predisposed to trance who is mentally unbalanced through excessive and disproportionate endowment of imagination and emotion; one who is powerfully developed in reasoning and thinking qualities and is badly deficient in observing and practical faculties, is so far forth predisposed to the intellectual form of trance; the best subjects are those who are predisposed, both physically and psychically, who have sensitive organisations and unbalanced ill-trained minds". Lastly it explains *(j)* the periodicity of Trance in certain cases: it is the nature of all functional nervous diseases—neuralgia, sick headache, hay fever,

inebriety, and some forms of insanity—to appear more or less periodically; and the majority of cases of spontaneous trance are, the writer believes, periodic.

On legal medicine, Trance as explained by the author has, according to him, a direct and most important bearing in four ways. *(a)* Testimony as to crimes committed under circumstances of great excitement may be of very slight value, through the witnesses being entranced by the emotion of fear. *(b)* Testimony relating to sudden accidents, attended with fatal or serious consequences, may likewise be rendered worthless as regards the fixing of responsibility, because both witnesses and actors in such circumstances are liable to trance.

"There is no doubt that persons in responsible positions sometimes become entranced as peril approaches, and thus they are likely to take precisely the wrong course and to do that which they especially wish to avoid, like a mesmerised subject. A few years since, while returning from Europe, our steamer collided with a sailing vessel, under these circumstances. It was a starlight night, and the sailing vessel was sighted at least fifteen minutes before the moment of collision and was not lost sight of during that time. The vessel was coming across our bows. Under right management on the part of the officer on deck, a collision would have been impossible. If we had stopped, if we had backed, if we had kept on our course, if we had turned to the port, all would have been well. There was but one way in which it was possible for us to run into the sailing vessel, and that was by turning to the starboard and chasing her. That course the officer of the deck took, and succeeded in running into and knocking the masts out of the vessel. There was no suspicion of intention; there could have been no motive. The officer in charge was not over-experienced, probably became entranced, and did just what he terribly wished to avoid doing. In cases of this kind, the responsibility, legal or moral, belongs to those who allow men of insufficient capacity or experience to take positions for which they are not adapted. In those who have the right capacity for a responsible station, and whose experience in that station has been large, the liability to become entranced through fear is reduced to a minimum."

(c) Testimony relating to alleged crime or wrong deeds committed by entranced persons should be received with suspicion: the commission of crime requires usually the exercise of will (though as in some forms of insanity the will may be irresponsible), and will by the theory is in abeyance; the author, in a large number of cases, recollects no instance of evil doing, and the suggestion of such a thing in mesmeric trance, so far from being yielded to like other suggestions, has been found to be a sure way of bringing the subject back to full consciousness. *(d)* Testimony in the trial of those who, under pretence of going into trance, defraud the people, is absolutely valueless from any but experts who have made a special study of the physiology and pathology of the nervous system: the opinion of common people however cultivated and honest, or of scientific men however distinguished in other departments of science, is of no account at all as to what the signs of true trance are or as to what can be done in it, to say nothing of their own liability to fall into the state when they fancy themselves most on their guard against it. The author other-

wise exposes, at some length and with much force, the absurdity of popular and even common professional opinion as to what kind of evidence is admissible or sufficient for the proof or disproof of such alleged phenomena of trance as "clairvoyant or second-sight power or the existence of a sixth sense, by means of which the subject is able to see around and through the world and into other worlds, or to tell time through the back of the head, or to read with closed eyes, or to see through opaque objects, or to discover lost persons or property, or to reveal the past, or to prophecy with precision, to communicate with spirits of the departed, or to raise the dead". Such phenomena never have existed and never can exist in Trance, but the author's confidence in saying so is based upon no inductive disproof of this or that imposture (however useful this may sometimes be), but upon the deductive "application of this law of nature, devised from the experience of all authorities in physiology, namely, that no human being ever has any faculty different in *kind* from that conferred on the human race in general. None of the real phenomena of Trance differ from those that are common to the human family otherwise than in degree." The paper is very wholesome reading.

Sleep.—Dr. A. M. Langlois of Dijon has recently published there a short essay (pp. 61), under the title *Contributions à l'étude du Sommeil naturel et artificiel* (E. Jobard), which is of some interest to psychologists, though he professes to confine himself to the physical aspects of sleep. Physiologists have of late sought chiefly to determine whether in sleep the brain is in a state of hyperæmia or anæmia, and, without neglecting this part of the case, the author contends for the necessity of considering also the *quality* of the nutritive fluid, as affected by the lowered respiration, reduced action of the heart, and other circumstances characteristic of the state of slumber.

Natural sleep is described as a biological phenomenon, nocturnal and intermittent, and essentially restorative—promoting the nutrition of the organs by a decrease of the vital activity and processes of oxidation that go on in the bodily frame. It is characterised by muscular relaxation, obtusion of the senses, diminution of the respiratory movements, decrease in the number of heart beats, lowering of the bodily temperature, de-oxygenation of the blood, and a state of insensibility to pain that is in direct proportion to the intensity of the sleep. The author gives interesting particulars and makes suggestive observations on all the points here noted. The nocturnal recurrence of sleep he connects with the absence of light, not only as a physico-chemical agent in relation to the vegetable and animal worlds, but also as it afforded to the predatory ancestors whose bodily habits we inherit the conditions for procuring subsistence. The intermittence is shown to accord with the general character of organic manifestations (for example, the state of a muscle after exertion—in which by reason of insufficient elimination of the products of decomposition there takes place a formation of lactic acid, with loss of energy continuing until its naturally neutral or alkaline re-action is restored by repose or

otherwise); also with the formula that excludes perpetual motion in mechanics. The muscular relaxation (without prejudice to tonicity) so marked in man—fall of the eyelids and lower jaw, recumbent posture made necessary by naturally forward gravitation of the head, inability to hold anything in the hand, &c.—is much less complete in many of the lower animals, but this, according to the author, is in all cases explicable by the principle of Natural Selection: birds, for example, sleep in that erect and active attitude from which they can most easily take to wing, if necessary for their safety. The obtusion of the senses begins with vision as shut off by closure of the eyelids; insensibility of the skin follows afterwards; smell is much enfeebled, for a sleeper who sets fire to his curtains is first awakened by the pain of burning or by the blaze; hearing is the least effected or the most easily excited, insomuch that when we speak of a light sleeper we should rather say an acute hearer. The insensibility to pain, treated separately by the author (though he allows pain to be only an exaggeration of the normal skin-sensibility), is made dependent on three circumstances: (1) the lowered temperature both superficially and internally, (2) the depressed respiration, (3) the increase of carbonic acid in the blood. The anæsthetic effects of refrigeration are familiar; Moleschott and others are quoted to the effect that pain is abated by holding the breath or in the long expiration of cries, because less oxygen is then taken in, and there is reason to believe that the intensity of suffering is proportional to the oxygenation of the living tissues; and as for the third point, evidence is given of the distinctly anæsthetic influence of carbonic acid, while it has been proved experimentally that in states of pain the amount of this gas given off by exhalation is less and consequently the amount retained in solution in the blood is greater. The comparative de-oxygenation of the blood in sleep is, in the author's view, the true secret of its restorative action. In opposition to Mr. Spencer—who supposes that regeneration of tissue may really go on more rapidly by day, when the blood is richer in oxygen and the circulation is more active, though it seems otherwise, because by day, in comparison with night, the amount of regeneration is over-balanced by the amount of waste—he urges, with M. Claude Bernard, that the richness and full flow of the waking stream tell only in the direction of expenditure. Regeneration begins when the oxygen of the red globules does not suffice for the keeping up of active movements and maintaining at its height the animal heat. The regenerative effect of lowering of the general temperature which takes place in sleep, may be brought into relation with the condition of cold-blooded animals in which reparation of tissue goes on to so much greater an extent than in the warm-blooded; also with the fact that in the case of these last, when they hybernate, restorations are found to take place which never occur in the active state. Finally, as regards the *quantity* of the cerebral circulation, Dr. Langlois seeks to reconcile the discrepant views, each of which rests upon some evidence, by distinguishing three phases or stages in the duration of natural slumber:—first, a hyperæmic stage, with a certain amount of cerebral activity, but this

incoherent and not remembered; then a period of transition in which the nerve-cells repair the best part of their losses, with cerebral pause; last of all, a state of relative anæmia, with a more orderly cerebral activity, of which there may be memory in the waking condition which gradually supervenes.

Study of Types of Character.—In his presidential address to the Department of Anthropology in the Biological Section of the British Association, at the Plymouth meeting in August, Mr. Francis Galton made some suggestions as to methods for the study of those groups of men who are sufficiently similar in their mental characters or in their physiognomy, or in both, to admit of classification. Such types of character as those described by Theophrastus and La Bruyère might now, he thinks, be scientifically studied with great profit, if some one well-versed in literature were to compile a volume of extracts from plays and the higher works of fiction, whose authors are ever on the watch to discriminate varieties of character, and have the art of describing them. Another suggestion is that a comparison of the age, height, weight, colour of hair and eyes, and temperament (so far as this may admit of definition) should be made with the amount of personal equation in each observer in the various observatories at home and abroad: the magnitude of a man's personal equation indicates a very fundamental peculiarity of his constitution, and we should thus learn how far the more obvious physical characteristics may be correlated with certain mental ones, while obtaining, perhaps, at the same time a more precise scale of temperaments than we now have. Referring next to some of the recognised methods for measuring exactly the rate or compass of judgment in different individuals (including Prof. Jevons's plan of suddenly exhibiting an unknown number of beans in a box and requiring an estimate of their number to be immediately called out), Mr. Galton dwelt upon the use that might be made of photographs when, after having obtained by one or more methods a group of persons resembling one another in some mental quality, the external characteristics and features most commonly associated with it have to be determined. Photography can seize those subtle yet clearly visible peculiarities of outline which most elude measurement. The anthropologist ought to have the full face, profile, and view of the head from above, of the individual whose features he is studying; which by a simple arrangement of mirrors might all be obtained to scale on the same plate with the ordinary photographic picture of the sitter. From such sets of representations of several persons alike in most respects but differing in minor details, the typical characteristics might then be extracted by superimposing the pictures optically and accepting the aggregate result. Either, as suggested by Mr. Spencer, the portraits reduced all to the same scale might be traced on separate pieces of transparent paper and secured one upon the other, and then be held between the eye and the light; or, as occurred to Mr. Galton himself, faint images of the several portraits, in succession, might be thrown upon the same

sensitised plate. He is now engaged upon an inquiry into the physiognomic aspects of the criminal classes, on the basis of such photographs as he has been able to obtain from the prison authorities of the country—many thousands in number and so far affording a good ground for classification, but unfortunately needing to be supplemented by views of the profile and shape of head. The address is given in full in *Nature*, Aug. 23rd.

EDITOR.

VIII.—NOTES AND DISCUSSIONS.

Mr. Sully on 'Physiological Æsthetics'.—I propose to say a few words in answer to Mr. Sully's criticism of my *Physiological Æsthetics*, which appeared in the last number of MIND. I wish merely to deal with his strictures on my theory of pleasure and pain, because I think I can show him that the cases which he adduces as weighing against that theory are either only apparent difficulties, or else, when thoroughly sifted, strong arguments in its favour. I shall take his various points in the order of their occurrence.

Mr. Sully asks (p. 388) "Even if we allow that certain sensations, as bitter tastes, which are painful in all degrees of intensity, answer to injurious stimulation, . . . how are we to bring the pains of ungratified desire under Mr. Allen's principle? The omission to include these in his view of pains is all the more remarkable, since the writer to whom Mr. Allen owes most, Mr. Herbert Spencer, has given so great a prominence to them." Now the fact is, I purposely avoided all allusion to this subject, because I did not wish to drag in an unnecessary discussion: but as I am thus compelled to state my opinion, here it is. I believe such pains hardly exist at all; while the few which do exist are very vague, are confined to highly-developed animals, and form a portion of those complex emotional feelings whose physical antecedents are still involved in great obscurity. Much confusion has arisen from the ambiguous use of words like *craving*, *appetite*, *desire*, &c.; and I think there are three distinct classes of feelings liable to be confounded under these names. First, there are the positive pains of hunger and thirst, in their extreme forms, which obviously arise from insufficient nutrition or actual unbuilding of the tissues; and these fall readily enough under the general law. Secondly, there is that uneasy feeling produced by high efficiency of any organ, which seeks, successfully or otherwise, to perform its function. This is *not* a pain, but merely a nisus, an impulse, a stimulus to action. As cases in point we may take the ordinary forms of hunger and thirst, which are neither pleasurable nor painful, but simply act as impellents. It is these feelings which Mr. Herbert Spencer calls "cravings," and to which he rightly attributes so great an importance, relatively to his own mode of treatment. But I doubt whether they should be classed at all in the same category with pleasures and pains, because they are in reality mere phenomena

of volition, though compounded or inextricably mixed up with emotional states. A good appetite, or a sexual impulse, or a tendency towards muscular action are each in themselves on the whole pleasurable, but are liable to be combined in concrete cases with positive hunger, or ideal disappointment, or painful restraint. Thirdly, there are a few instances where a gratification is suggested in the idea, while the actuality cannot be realised; as when I see or think of strawberries, but am prevented by circumstances from eating any. These are true cases of *discomfort* arising from ungratified desire, though they hardly deserve to be called by any stronger name. But they are too few in number and too slight in importance to be included in a general view of pains. They can only exist in nervous systems sufficiently complex to be capable of ideation and disappointment. Accordingly, they belong to that class of higher emotional feelings concerning whose mechanism we know as yet little or nothing; and Mr. Sully surely will not blame me for not having gone beyond my facts. As a rule I have confined myself to peripheral pains, about which something can be said with certainty, and have written very little, and that doubtfully, on the head of central pains, about which we can still only guess with more or less probability. But I have always allowed throughout for that blank and negative neutral feeling known as dulness or monotony, which results from the simple absence of pleasurable stimulation.

Again, Mr. Sully writes: "He hardly succeeds in including the effects of disagreeable combinations of colours under this law. He argues that discordant juxtapositions of colours produce their effect through a successive stimulation of the same class of optic fibres, which thus reaches the exhaustive and injurious point. It would follow from this, of course, that one and the same colour spread over a large surface would produce the pain of chromatic dissonance in its maximum degree. It need hardly be said that this consequence sufficiently illustrates the untenability of Mr. Allen's view of colour-discords." To this I would answer that a single field of colour *does* undoubtedly produce the maximum degree not of chromatic *dissonance** but of chromatic fatigue, as Mr. Sully may easily satisfy himself by the following simple experiment. Take a large sheet of white paper and cut in it a circular hole about ten inches in diameter; then place under the hole a piece of bright red or yellow paper: hold it at the average distance at which you read ordinary type, and look fixedly at the red spot for a few seconds. It will be found that the

* I must gently protest, in passing, against the employment of this word: my argument having been that all dissonance is fatigue, Mr. Sully treats it as though I had asserted that all fatigue is dissonance. I may add that the very same argument brought by Mr. Sully against my theory of colour-discord, which he rejects, might with equal force have been brought against Helmholtz's theory of note-discord, which he accepts. What would Mr. Sully say to a person who argued that on Helmholtz's principles "one and the same note, continued for a long time, would produce in the maximum degree the pain of musical dissonance"?

disagreeable effect, chromatic as well as muscular, is intense. Then remove the eye from the red spot, and let it wander with its usual freedom over the paper. It will be found that the vision is constantly shifting from the red to the white and back again, especially following the contour of the circle. It is these semi-automatic movements which ordinarily mask from us the unpleasant effects of a monochromatic field—or rather, practically prevent its occurrence. Wherever form is suggested, the eye keeps restlessly wandering to and from the boundary lines, and unconsciously shifting its focus from one shade or colour to the other. Hence, a considerable patch of one colour may cause us no perceptible annoyance, while two patches of discordant colour, each of half its size, may annoy us considerably: because in the first case we are constantly wandering off for relief to the limiting colours, and in the second we are constantly travelling to and fro over areas which alike fatigue the same perceptive elements. Hence, I believe, the common experience that a certain amount of concentration is required in order to perceive colour-discords, in proportion to the minuteness of their elements. It should be remembered that the extreme restlessness of the eye, and its continual practice of skirting round the figures represented to it, are seldom sufficiently recognised except by those accustomed to minute observation and subjective optical experimentation.

The passage, however, which seems to me most especially to demand a rejoinder is this: "What we miss is an adequate inductive basis for the generalisations put forth, and a due co-ordination of the different principles adopted. For example, the alleged correspondence between the amounts of pleasure and pain and the importance of the function certainly requires proof—and careful proof—in view of such patent facts as the torments attending an injury to the dental nerve, the comparative painlessness of many internal diseases, the slight amount of pleasure afforded by the process of digestion, and so on" (p. 339). The explanation of these seeming anomalies is so simple that I should hardly have thought them worth anticipating. First, let us take the case of toothache. All the higher animals are covered externally with a layer of non-sensitive tissue which we call the epidermis, and which undergoes many modifications for protective or other purposes. Evidently, it is highly desirable for them to be thus preserved from the action of destructive agencies in the environment. An animal which lost its hair or feathers would be exposed in a peculiarly defenceless state to enemies, weather, and rough bodies. Accordingly, natural selection has provided that these protective structures, themselves non-sensitive, should be embedded in a layer copiously supplied with nerves, so that acute pain follows the slightest attempt to remove or loosen a single one of them. More especially important are those instrumentary modifications known as nails, claws, hoofs, talons, beaks, and horns, which aid the animal in walking, digging, scraping, seizing prey, attacking or repelling enemies, and other useful actions. Accordingly we find these structures embedded in unusually sensitive layers, so fully innervated that a very slight injury is productive of

deep and excruciating pain. But of all the tegumentary tissues, the most indispensable to the higher animals are those used for mastication, the teeth. Not only are they necessary for tearing the food, but they are also used to attack enemies, to catch and hold prey, to remove obstructions, to build, carry, cut, gnaw, and excavate, in short, to do all that hands, weapons, and tools do for human beings. Naturally, the loss of such organs is of the most fatal import to every animal, and we find them, as we might expect, supplied with nerves of such size and power that the slightest strain or crack, the most unimportant shock, the mere jar of a gritty substance between their surfaces, produces a most objectionable thrill; while their actual forcible removal is probably the most intense agony of which our nature is capable. Of course, in civilised man, whose hands and implements have superseded his teeth, the nerve is comparatively useless; and we are generally conscious of its existence only when decay affects it. As things stand with us at present, the sooner the dental nerves become obsolescent the better. But if Mr. Sully had only turned from modern man to his earlier progenitors, he would not have wondered that enormous care had been taken in supplying a means of protection for the teeth.

Next, as to the painlessness of internal diseases and the slight pleasure of digestion. This difficulty is illustrated by another question of Mr. Sully's, a little further on. He asks, "Are mastication and deglutition more essential than stomachic and intestinal digestion?" I had hoped that my position on this subject was quite clear, especially after my distinct statement on pages 11 and 12; but it seems that my view has been misunderstood. Let me explain myself more fully. Pleasure and pain, being stimulants or deterrents of voluntary action, are specially connected with our cerebro-spinal system. That part of any set of functions which is voluntary is correlated with pleasures and pains: the remaining part, being automatic, could derive no advantage from such concomitants. Both in nutrition and in reproduction the initial step is voluntary, because the conditions demand that it should be so, and pleasure acts accordingly as an inducement to the first process; but when once the food is swallowed or the act of impregnation effected, the remaining processes go on automatically, and no good end could be subserved by voluntary intervention. So, too, with internal diseases. They are practically out of the reach of voluntary action, except in the special case of man, whose intellect enables him to devise means for detecting symptoms and arresting disease. But no lower animal could be one whit the better for a pain in its heart, its lungs, or its liver. Almost the only internal organ which yields us any feeling under average circumstances is the alimentary canal, which is susceptible of pain but not of pleasure; and this is just the one organ where an internal warning can be utilised even by the lower animals.

There are many other points in Mr. Sully's criticism which similarly call for notice; but I trust the few remarks given above will serve to show that a little consideration would get rid of his objections to my

theory. I hope hereafter to elaborate one or two of the ideas suggested by his criticism into illustrative essays, which will appear elsewhere; and I will therefore ask at present for no more space in the pages of MIND than that which has been already accorded me.

GRANT ALLEN.

Lord Rayleigh on a Gambling Paradox.—In the last No. of MIND Lord Rayleigh has a note upon an explanation which I had offered of a certain gambling paradox, *viz.*, that called the Martingale or Double and Quits. As I agree with nearly all that he says, and at the same time do not see reason to alter my own opinion, I conclude that one of us must have missed the point of what the other had to say.

Take the following case:—There is a bank A which plays with a fixed average percentage of advantage in its favour. B and C engage with it on the condition that they may leave off at any point of the proceeding they please, and that until they desire to leave off no questions about their solvency will be raised. This condition is precisely the same for both.

B adopts the plan of playing for fixed stakes; the same every time, whether he has won or lost the time before. C doubles his stake after every time of losing. Is there any difference in their prospects? Obviously there is. B cannot ensure ever being left a winner, whilst C must sooner or later find himself in that position. The general reason, without going into details, is clear: B (after the first time) needs, in order to win, a succession or run of luck, and the longer succession the longer he has had to wait; whereas C only needs a single event in his favour.

I cannot but think that some appreciation of this fact is lurking in the minds of some gamblers when they so persistently advocate this plan; and recognising this, I did not for a time quite see my way to answering them. Of course no bank would ever dream of permitting such conditions, but we may postulate them for argument's sake.

I quite accept all that Lord Rayleigh says about the difference between two persons nominally playing on credit, when one has property really to stake and the other has not; but in the case in question, B and C are supposed to stand on precisely the same footing, the only difference between them consisting in the way in which they arrange their stakes. The answer therefore commonly given, or implied, that no arrangement of stakes can ever make any difference in the final result, is not in every case correct, however completely it may apply to the cases which actually occur in practice. To bring this out was the aim of the explanation which I offered in the *Logic of Chance.*

J. VENN.

IX.—NEW BOOKS.

Recent British Philosophy: A Review, with Criticisms; including some Comments on Mr. Mill's Answer to Sir William Hamilton. By David Masson. Third Edition with an Additional Chapter. London: Macmillan & Co., 1877. Pp. 297.

To this book, first published in 1865 and reprinted in 1867, Prof Masson has now added a considerable sketch (pp. 35) of the philosophical work done in the last twelve years, including a Bibliographical Conspectus drawn up with characteristic thoroughness. While noting a steady increase of attention to speculative philosophy within the period, the author finds that Philosophy has shown a marked tendency to pass into mere Cosmology, and he can best distinguish the prevailing philosophical conceptions according as they stand related "to that extensive and thorough Science of the Physical Universe which all hold to be desirable on its own account, whether it will by itself amount to a sufficient Philosophy or not". Five positions are signalised. A Correct Cosmology is found (1) accompanied by a Metaphysical Nihilism—at least as a possible view, if not very seriously maintained; (2) accompanied by Metaphysical Agnosticism—which either *(a)* declines the question whether there is an Absolute or not, or *(b)* affirms an Absolute but denies that it can be anyhow featured by human intelligence; (3) irradiated by Metaphysical Inferences from itself—the common view of theists and theologians of the *a posteriori* school, supported after a fashion of his own by J. S. Mill in his posthumous *Essays on Religion;* (4) irradiated by an *a priori* Metaphysic of Faith or Constitutional Postulation—in divers ways (theological or other) and to divers ends; (5) grasped and explained throughout by an *a priori* Metaphysic of Reason—in the footsteps of Hegel. Professor Masson thus concludes:—

"On the whole my impression is that the struggle in Systematic British Philosophy, apart from Didactic Theology, is not now any longer, as it was in 1865, between Hamilton's System of Transcendental Realism *plus* a Metaphysical Agnosticism relieved by strenuous Faith, and Mill's System of Empirical Idealism *plus* a Metaphysical Agnosticism relieved by a slight reserve of possibility for Paley after all, but between Mr. Spencer's Knowable Cosmical Evolution blocked off from an Unknowable Absolute, and some less organised Idealistic Philosophy describable as British Hegelianism. But, apart from these two camps, there cluster the Comtists by themselves; and between the two camps, looking into each and borrowing from each, but refusing to belong to either or to house with the Comtists, move those vagrant Agnostics who still choose to rely mainly on more or less of constitutional postulation."

Socrates and the Socratic Schools, newly translated from the third German edition of Dr. E. Zeller, by Oswald J. R. Reichel, B.C.L., M.A. Second and entirely new Edition. London: Longmans & Co., 1877. Pp. 408.

"In order to avoid inaccuracies, the translator has once more carefully gone over the whole, so that what is now offered as a second edition is really a new translation from the third German edition."

De l'Imagination; Étude psychologique. Par N. Michaut. Paris: Germer Baillière. 1876. Pp. 323.

Perception is analysed into two factors, Sensation and Ideas. Ideas are defined as "any primitive element, other than Sensation, that analysis can discover in any intellectual phenomenon"; and are either (1) *a priori* or (2) copies of sensations. They are always associated in groups, which are capable of subsisting in the absence of the sensation around which they at first formed, and are then called Images. Hallucination is perception in which the factor of sensation has an entirely subjective origin, being supplied by the excitation of the sensory centres by a dominant idea *(idée fixe)*. Dominant images have the power of altering weaker images, and subduing them to their own likeness; whence arises Illusion, which is a morbid grouping of abnormal associations round a sensation normally furnished by the senses from without (as a white cloud is taken for legions of angels). Association of Ideas is treated of at length. The conditions of Association are—subjectively, Simultaneity of Presentation, and, objectively, all possible sorts of Relation between the objects of ideas; the principal categories of these being Contiguity (in time and in space) and Resemblance. These laws are shown at work in the operations of Reverie, Reminiscence, and Memory. Images are classed according to their susceptibility of revival, in the following order:—visual, auditory, tactile, and lowest of all, gustatory, olfactory, and those of the systemic sensations. Memory is shown to consist of revival with recognition, the ground of recognition being the indissolubility of the order of arrangement of the factors of a revived image. The process is complete when we have discovered the '*attachments*' of the image, *i.e.*, the associations between which it naturally stands, and which mark the point in time at which it first arose. Images are subject to disintegration. Their viability is as their susceptibility of revival. Images are further changed by the fusion of those that contain a common element, and new combinations are formed by the accretion of new ideas around old images. The essay closes with some chapters on Æsthetics.

Des Sociétés Animales; Étude de Psychologie Comparée. Par Alfred Espinas. Paris: Germer Baillière. 1877. Pp. 389.

This is a very important study of the phenomena of social life in the animal world, to which we shall hope to return in a future number. The author is a young French thinker who, basing partly on original observations and partly on a critical survey of the best ascertained facts as recorded by other observers, aims ultimately at the solution of two chief problems which he thus expresses:—"(1) What is the relation between the individuals and the psychical centre

to which their activity binds them or the group within which they live each with a distinct body and consciousness of their own? How reconcile the individuality of the parts with that of the whole? And if the whole forms a true individual, how amongst animals is a collective consciousness possible? (2) What sort of thing is Society? Is it a being properly so called—a thing real and concrete, or is it only an abstraction, a conception without object, a word? Is Society a *living thing* like the individual, as real and even more real, or is it only a unity of collection, a verbal entity of which the individual forms the whole substance?" His prior object, while preparing the way for such solution as he gives of the problems, is to make manifest the presence of communal life throughout the animal kingdom from the lowest grades to the highest. Collective life is, he contends, no accidental occurrence here and there, but a normal, constant, universal fact. All animals are at some time of their existence involved in some society: the social medium is the necessary condition of the preservation and renewal of life.

Der Ursprung der moralischen Empfindungen. Von Dr. Paul Rée. Chemnitz: Schmeitzner, 1877. Pp. 142.

An attempt to give a strictly theoretic account of the origin of our moral feelings, on the express assumption that the higher animals have been evolved by natural selection from the lower and that man is no exception. In the author's view, all morally good action is altruistic and all morally bad action is egoistic. Moral distinctions are a product of custom and acquired by education. The reason why altruistic action grew to be commended, lay in the ill effects as between man and man of the selfish impulses of human nature; but the reason has been left out of view while the moral distinctions are passed on, and thus altruism instead of being seen to be only good for others, has come to be accounted absolutely good. It is under this impression, joined to the (mistaken) notion of the will being free, that remorse arises; also the feeling of retributive justice. A number of other feelings are explicable from a regard to the opinion of our fellows. The author is of opinion that men do not become better, that is to say, less egoistic with the lapse of time; for neither by natural selection is it exactly the non-egoistic individuals or nations that survive, nor is altruistic feeling so often indulged as to become strengthened by repetition; the utmost that can be said is that men tend to become more governable. In the actual conditions of life, more full as it is of pains than pleasures, the good man is by his sympathetic disposition least of all secure of happiness; but happiness generally depends less on moral or immoral qualities than on other things, such as health, temperament, reasonableness. The essay is marked by great lucidity of expression and no common boldness of thinking. It deserves attention both for the scientific value of some of its observations and as a rather striking specimen of the pessimistic vein of thought now prominent in Germany.

Dogmatismus und Skepticismus. Eine Abhandlung über das methodologische Problem in der vorkantischen Philosophie. Von Dr. Paul Kannengiesser. Elberfeld : Fassbender, 1877. Pp. 95.

The author of this little treatise has no ambition to throw one work more upon the pile of Kantian literature raised by so many hands in Germany at the present day; but taking the deeper meaning of the Kantian revival to be—that it springs from a determination to make the progress of philosophy (like that of science) continuous from the last position that all can agree in regarding as permanently won, he desires to aid farther advance by bringing clearly into view the real nature of Kant's lasting achievement. It was a solution of the problem of Method, and the author will exhibit this at length in a work on which he is now engaged. The present treatise is merely preparatory, dealing with the methods of Dogmatism and of so-called Scepticism or Empirism (as represented on the one hand by the Leibnitzo-Wolffians and by Hume on the other) which Kant had before him. The "assumptions and grounds" of each are set forth in separate chapters.

X.—NEWS.

Dr. E. Dühring, referred to above (p. 517) in his place amongst the philosophical thinkers of Germany, has, by a ministerial order dated the 7th July, been dismissed from the post of *privat-docent* in the University of Berlin, which he has held for the last fourteen years. The event has roused so much excitement amongst students and others in Germany that the Minister has allowed the Philosophical Faculty of the University to publish in a small pamphlet (pp. 36, Berlin: Reimer) the various documents that give the true history of it. From these it appears that already some two years ago Dr. Dühring narrowly escaped his present fate for having attacked in print one of the professors of the Faculty, and did not escape without an extremely severe official reprimand and the assurance that instant dismissal would ensue upon the least repetition of such conduct. Since then he has once and again offended, and as he would not, when summoned to account, recede from his positions, the dismissal has now followed. The documents set forth in detail his recent offences. Writing some months ago on the higher training of women, he made an onslaught upon the German Universities generally as nests of corruption and obscurantism; and in the new (second) edition of his *Critical History of the Principles of Mechanics*, besides reflecting on the mathematical professors at Berlin, he expressly charges Prof. Helmholtz with having appropriated to himself the credit that belonged to Mayer for the discovery of the principle of the Conservation of Energy. This latter charge is proved to be utterly groundless, and one is at a loss to understand either how it could have been made at all or made in such extravagant terms. The attack on the University-system is also

robbed of all gravity by its wildness. On the whole, it is not surprising that the Minister should have judged that Dr. Dühring could no longer labour usefully within a system which he reprobates so vehemently and in the company of colleagues whom he so lightly esteems. It is, however, matter of deep regret that a philosophic worker of his ability should thus have faltered in his career, and one learns with a sense of pain that he now suffers from blindness contracted in the midst of his unwearied literary labours. If, as has been reported, he is about to be placed, by those who sympathise with him, as instructor in a free scientific institute at Berlin, founded on better principles than the University, the good wishes of many will go with him in his new career. The Prussian capital offers a field quite large enough for an educational experiment, and if it should result in proving the deficiencies of the University, no Faculty or Minister will have the right to resent *such* an exposure.

Dr. R. Avenarius, editor of the *Vierteljahrsschrift für wissenschaftliche Philosophie* and till now *privat-docent* in the University of Leipsic, has been called to the University of Zürich as Professor of Inductive Philosophy.

Revue Philosophique.—2me Année. No. VII. E. Boutroux—'M. Zeller et l' Histoire de la Philosophie' (I.). Th. Ribot—'Philosophes contemporains: M. Taine et sa Psychologie'. Guyau—'La contingence dans la Nature et la liberté dans l' Homme selon Épicure'. Observations et Documents—'La Conscience du moi,' par Th. Galicier. Analyses et comptes-rendus. Rev. des Périodiques. No. VIII. E. Naville—'Les Principes directeurs des Hypothèses'. E. Boutroux—'M. Zeller et l' Histoire de la Philosophie' (fin). J. Delboeuf—'Pourquoi les Sensations visuelles sont-elles étendues?' Notes et Documents—'L'Espace d'après Clarke et Kant,' par M. Boirac. Analyses et comptes-rendus. Rev. des Périodiques. Correspondance—'Apropos d'une illusion interne optique'. No. IX. Ch. Bénard—'L' Esthétique du Laid'. E. Naville—'Les Principes directeurs des Hypothèses' (fin). L. Liard—'La Logique Algébrique de Boole'. Analyses et comptes-rendus. Rev. des Périodiques étrangers.

La Critique Philosophique. VIme Année, Nos. 21-32. C. Renouvier—'Le Cours de Philosophie positive est-il encore au courant de la science?' (21, 27); 'Examen des Principes de la Psychologie de Herbert Spencer: La physique de la psychologie' (23), 'L' évolution générale mentale' (24), 'La formation de l' esprit par l' expérience héréditaire' (28). F. Pillon—'La critique de l' infini: L' infini actuel selon M. Wyrouboff' (31).

La Filosofia delle Scuole Italiane.—Vol. XV., Disp. 2. F. Bertinaria—'Ricerca se la separazione della Chiesa dallo Stato sia dialettica ovvero sofistica.' A. Paoli—'Le dottrine platoniche nel secolo XIX.' T. Mamiani—'Dei nuovi peripatetici in alcune scuole teleologiche odierne.' G. Jandelli—'Del sentimento.' T. Mamiani—'Sulla rappresentazione ideale.' C. Cantoni—'I precursori di Kant nella Filosofia critica.' Un Credente—'Filosofia della religione.' N. N.—

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